Heterogeneity of taxation in EA Member countries and some implications for EA fiscal governance

Bernardi, L.

University of Pavia - Italy

12 July 2012

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Luigi Bernardi

Abstract
Notwithstanding the repeated efforts of the European Authorities to harmonize and coordinate countries' taxation, and in spite of the effects of international tax competition, in 2009 EA taxation was still far from being homogeneous among Member Countries. Given this situation, the purpose of the paper is threefold. First of all, it is designed to provide a detailed overview of the existing differences, in terms of taxation, among EA Members. Secondly, it aims at examining whether these disparities could interfere with EA fiscal governance, the rules of which largely consist in single figures applicable to all the concerned countries. Finally, the analysis wants to ascertain whether the present EU Commission's suggestions for fiscal consolidation and for tax reforms may differently affect specific countries, given the aforementioned differences in their tax systems. The conclusions include the traditional belief that greater harmonization and coordination of Europe's tax systems could well improve fiscal governance within the EA.

JEL Classification: H20, H30, H60

Keywords: Taxation, Fiscal rules, Fiscal consolidation, Budget balance, EA countries

University of Pavia - Italy

July 2012

1. *Introduction**

Notwithstanding the repeated efforts of the European Authorities (a recent short summary of which can be found in the EU Commission's report, 2012) to harmonize and coordinate individual countries' taxation, and in spite of the effects deriving from international tax competition (a short overview and bibliography can be found in Bernardi, 2009), in 2009 EA taxation was still a long way from being homogeneous among the EA Member Countries. The differences in taxation have been attributed (for all, see: EU Commission, 2011b; Musgrave, 1969 for a historical perspective; Tanzi, 2011, for taxation trends in OECD countries; Cedric, 2000, for a political economy approach) to several factors: different social policy choices; dissimilar economic systems; an uneven distribution of income and wealth; institutional arrangements; and, finally, a number of technical issues[1]. To give just some meaningful figures, the total taxes-to-GDP ratio in 2009 was 28.2 percentage points in Ireland while in Belgium it reached 43.5 GDP points (EA average, 36.9 points). Direct taxes accounted for 38.3 per cent of total taxation in Finland, but only 19.2 per cent in Slovakia (the EA average was 31.1 per cent). In turn, indirect taxes amounted to 43.6 per cent of GDP in Cyprus but only 29.5 per cent in Spain (the EA average was 36.2 per cent). Finally, social security contributions were as high as 43.9 per cent in Slovakia, but fell short of 18 per cent in Malta (with an EA average of 33.1 per cent)[2].

Given such a situation, the purpose of this paper is threefold. First of all, it is designed to provide a detailed overview of the existing differences, in terms of taxation, among EA Members. Secondly, it aims at examining whether these disparities could interfere with EA fiscal governance, the rules of which largely consist in single figures applicable to all countries concerned. Finally, the present analysis aims at ascertaining whether the present EU Commission's suggestions for fiscal consolidation and for tax reforms may affect individual countries differently, given the aforementioned differences in their tax systems. The somewhat technical, specific scope of this paper does not mean that we agree with the rules and practices at present governing EA fiscal governance. On the contrary, we would point out that the existing nature of EA fiscal rules is strictly designed to

*luigi.bernardi@unipv.it. Thanks are due to S. Momigliano, B. Pierluigi (ECB) and S. Scabrosetti for the materials and the useful comments provided.

[1] Such as the choice between tax expenditures or welfare subsidies, or between the taxation or exemption of pensions, and the structure and financing of the health system.

[2] Although some of the abovementioned countries may appear of minor importance, the fact is that similar values were also discovered in relation to larger countries.

maintain fiscal stability[3], although such may prove detrimental to economic growth and may contribute towards the persistence of the depression affecting Europe's economies. In other words, "*According to several authors and policymakers, and among the most influential vis-à-vis the ECB and the EU, the solution to the European crisis lies in the achievement of financial stability, through substantial primary balances, which may cause the debt-to-GDP ratio to fall.(…). This policy should be supported by the provision of financial aid to the most highly indebted countries, strictly conditional upon fiscal consolidation. This proposal, however, seems to ignore the deflationary effects burdening European countries (…). According to the aforesaid points of view, growth ought to derive from the supply side, in the form of labour market flexibility, liberalization, structural reforms which do not burden the state's budget, provided such exist"* (Bosi, 2012).

The rest of this paper is organized as follows. Section 2 provides a detailed quantitative assessment of the tax differences characterizing EA members, in terms of both the contribution of individual levies to the countries' total taxation, and of the share of GDP %ages represented by the various taxes. Section 3 examines estimates of the main taxes' elasticity to GDP. Moreover, an evaluation is given of the revenue responses to shifts in GDP. Section 4 considers the documents recently issued by the EU Commission, regarding the contribution of the revenue side of the budget to fiscal consolidation and to tax reforms. The last section (section 5) summarizes our findings and offers some conclusions.

2. *The heterogeneity of tax structures in the EA-17 countries: a quantitative assessment*

Tables 1 and 2 provide information concerning the existing heterogeneity of European countries' taxation systems [4]. Table 1 shows disparities between countries with regard to both total fiscal pressure and the structure of total revenue from the main forms of taxation. Table 2 illustrates the quantitative variability of the main taxes as GDP %ages across each country.

2.1 *Countries' taxes levels and structures*

[3] The European Council meeting of 28th-29th June 2012 took some initial steps towards enhancing growth, planned to improve and centralize the supervision of banks' activities, and facilitate countries' access to European mutual aid funds. However, the rules of fiscal governance within the EA have not changed significantly.

[4] It is out of the scope of this paper to consider the details of the design of each individual tax, as suggested by Pedone (2011). This matter is carefully examined in the EU Commission's *Taxes in Europe database*, http://ec.europa.eu/taxation_customs/taxation/gen_info/info_docs/tax_inventory/index_en.htm.

Table 1[5] specifically deals with the total-tax- to- GDP ratio of the different countries concerned, together with their taxation structures rated according to the prevailing aggregate sources of revenue - direct taxes, indirect taxes and social security contributions. The EA-17 2009[6] average total taxation

HERE TABLE 1

to-GDP ratio (column 1) reaches the relatively high level of 36.5 per cent (this is the arithmetic average, while 39.1 is the weighted average). However, this average is obtained from a series of quite different national values, as appears if we consider the variance between the highest and the lowest figures (Max-min: 14.7). The lowest ratio refers to Ireland (28.2 % tax-to-GDP ratio); the highest to Belgium (43.5 %), as we have already mentioned. Overall, four groups of countries emerge. The bottom group includes Ireland and Slovakia, where total taxes fall short of 30% of GDP. A second group includes those countries with tax-to-GDP ratios between 30 and 35%: these are all Mediterranean countries, namely Greece, Portugal, Malta and Spain. A third group is made up of countries with a ratio ranging from 35 to 40 %: Luxembourg, Estonia, Cyprus, the Netherlands, Germany and Slovenia. This third group is the largest, although it includes a number of very dissimilar countries. The top group contains five countries (Austria, Italy, Belgium, Finland and France), whose tax-to-GDP ratio is consistently above 40 %. They are countries either from the "core" of Europe (Austria, Belgium and France), or where taxation has traditionally been high (Finland and Italy).

The differences in the structure of the various countries' taxation may firstly be appreciated if we look at the previously-mentioned ranking of the prevailing categories of taxes. This is a first important difference among the countries. If we look at the structure of taxation in more detail, we see that direct taxes (column 2, top rows) are predominant (on average, 37.1 % of total taxes - the EA-17 average is 31.1 %) in four of the "high tax" countries (Italy, Belgium, Luxembourg and Finland). In the cases of Italy, Belgium and Finland, this is driven by the high level of PIT, while in Luxembourg the prevalence of direct taxes is the consequence of upward pressure from CIT. Within this group of countries, indirect tax and social security contribution levels are about six points lower

[5] The sequence of countries tends to reflect the one followed in EU-Eurostat databases.

[6] 2009 Eurostat data (the latest detailed data available) might be somewhat distorted by the effect of the financial and economic crisis. Note, however. that the lack of homogeneity among European taxes is not a by-product of the crisis, but a persistent phenomenon. Since the nineties there was a degree of convergence, but this has slowed somewhat since the beginning of the current century, and subsequently as a consequence of the ongoing, at least for the time being. See Bernardi (2011), and for more details, EU Commission (2011a).

than the share of direct taxes (the average value of both indirect taxes and social security contributions is about 31.5 %). It should be pointed out that, albeit with a few exceptions, individual countries' values within any main tax category differ only relatively.

In six of the "low tax" countries (column 5, central rows -Greece, Ireland, Portugal, Malta, Estonia and Cyprus), indirect taxes -especially VAT- represent the main source of revenue (with an average value of 41.4 % of total taxes, compared with the EA-17 average of 36.2 %). The number of 2004 "New Members" and/or "peripheral" countries within this group I substantial. As regards this particular group, in some cases direct taxes prevail (in particular in Ireland, Malta and Cyprus: the average value for this group is 31.5 %), while in others social security contributions prevail (in particular in Greece, Portugal and Estonia: the average value of the group is 27.1 %). The total of the latter two levies, and their specific subcomponents, vary considerably within the same group.

In a final group of countries (column 8, bottom rows) consisting of Austria, the Netherlands, Germany, France, Slovenia, Spain and Slovakia, social security contributions yield the larger share of total tax revenue (average value: 39.3 %. EA-17 average 33.1 %). In all of these countries but Spain, indirect taxes represent the second most important source of taxation, whereas direct taxes are extremely uneven. This group is a rather mixed one, although it includes several members of the "kernel of Europe" (Austria, Netherlands, Germany and France). Within this group, these countries represent the heritage of the bismarkian tradition of mandatory social insurance.

2.2 *The countries' ranking of single taxes and of their main aggregations*

Table 2 presents a ranking of specific taxes per country in terms of their value as a percentage of GDP.

HERE TABLE 2

Within the EA-17, total direct taxes vary considerably (Max-min 11.0[7]; CV 27.4). The lowest figure (Slovakia: 5.5 % of GDP) is about one third of the highest figure (Finland: 16.5 %). At the bottom of the distribution, "New Members" tend to prevail. The center of the distribution includes certain dissimilar EA-17 countries. Likewise, the top of the list features a number of rather disparate countries. Among direct taxes, PIT varies much more (CV 38.6) than total direct taxes, but

[7] Note that the this the dispersion indicator (*Max-min*) suggested by Eurostat is somewhat distorted by the presence of outliers and by the different mean value of the single taxes. The other indicator (*Coefficient of Variation - CV=St.dev/mean*) hence seems more reliable.

considerably less than CIT (CV 50.5)[8]. The ranking of the EA countries in terms of specific taxes is broadly similar to that for total direct taxes.

Indirect taxes display the lowest variability in the main categories of EA-17 taxes (EA average: Max-min: 6.1; CV: 13.1). This is easy to understand if we consider the various measures taken over the course of time by the EU Authorities in order to harmonize, or at least to fix minimum rates for both VAT (especially with the "sixth directive") and, to a much lesser extent (Cnossen, 2002 and 2011), excise duties. As a result, the lowest value for total indirect taxes (Spain: 9.0 % of GDP) is about two-thirds of the highest value (Estonia: 15.1 %). The picture for VAT (Max-min 5.0; CV 18.1) is similar to that for total indirect taxes: the ranking is roughly the same. The case of excise duties is instead somewhat different however. The max-min value is obviously limited; nevertheless, the CV (27.2) is nearly double than the one referred to total indirect taxes.

Finally, if we look at social security contributions, their variability is rather similar to that of direct taxes. This is not surprising if one considers that the PIT basis is largely made up of the income of employees. However, the widespread presence of floors and ceilings on the dues, together with the prevailing proportional rates, implies that social security contributions tend to vary to a lesser degree than PIT (European average: Max-min 10.8; CV 25.8). Looking at the ranking, and starting from the bottom, one first encounters what are in the main "New Members", followed by the "peripheral" and finally the aforementioned "kernel of Europe" countries.

3. *Tax elasticity and revenue sensitivity*

3.1 *Tax elasticity*

Different procedures have been used to compute the sensitivity of tax revenue to changes in GDP or in more specific proxies of the tax bases, especially by international organizations such as the EU Commission (2011a), the ECB (2001) and the OECD (Girouard and André, 2005))[9]. These estimates are mainly used to calculate cyclically-adjusted revenue and budget balances. Since the approval of the "Stability and growth pact" in 1997, they have became more important, as they are used as part of the EU's surveillance of member countries' budget position. Table 3 gives the ECB's

[8] Such a high variability of CIT may appear strange given the converging, declining statutory rates seen in Europe since the late 1980s. However, the statutory rate is not the only factor determining CIT revenue, the others being the broadness of the tax basis, the share of profits over GDP, the degree of tax planning and businesses' legal status (see for all: Piotrowska and Van Borren, 2008).

[9] A comprehensive review of such procedures, together with a more general discussion of the topic, may be found in Banca d'Italia (1999).

estimates for the EA-12 countries, where the independent variable is GDP. Alongside the rows. the variability of elasticity of each tax across countries appears to be substancial.

HERE TABLE 3

By first considering direct taxes on households, only a limited number of countries (Belgium, the Netherlands and Finland) displays a value close to that of the EA-12 average (1.27). Some countries are characterized by much lower figures: Greece (0.71), Ireland (0.85), Luxembourg (0.55) and Austria (0.55). On the contrary, Germany exhibits a far higher value (1.69), which is well over the European average. The remaining countries show an elasticity of about one. High sensitivity to changes in GDP (EA-12 average 1.56) is found for direct business taxes, due to CIT. The elasticity of corporate taxation varies considerably, from the lowest value (0.71) in Ireland to the highest (2.01) in France. Within this broad range of values, the elasticity of corporate taxation may be subdivided as follows: three countries are close to, or below, 1.00 (Luxembourg, Belgium, and Greece); three countries are around the 1.20 mark (Italy, the Netherlands and Portugal); while the remaining countries are around 1.50 or more (Germany, Austria and Finland).

Not surprisingly, total indirect taxes, and those levied on goods and services only, reveal an EA-12 average elasticity (0.94 and 1.10, respectively) which is lower than that of direct taxes. Furthermore, contrary to what is often assumed *ex ante* (that is, an elasticity of around 1 in terms of both consumption and income: see the cited EU and OECD sources), the elasticity of countries' total indirect taxes tends to be below the European average in the majority of Europe's core countries (Germany, France, Luxembourg and Austria), and above one in several low-income countries (Greece, Spain, Ireland and Portugal) and in Finland and the Netherlands as well. Finally, social security contributions show the lower elasticity's average value in EA-12 (0.76). While many countries are not too far from this figure, there are some noteworthy exceptions such as Germany (0.43) and Spain (0.61), showing much lower values, and Belgium and Austria (1.0), The Netherlands (0.96), Finland (0.94) and Italy (1.06), showing instead higher values.

Looking at the variability of taxes' elasticity in each country (the columns of the Table. 3) we surprisingly find that the elasticity of direct business taxes occupies the topmost place in only one half of the considered countries (Germany, Spain, France, Italy, Austria and Finland), followed - with more than one exception - by direct taxes on households. In the aforesaid countries, the elasticity of indirect taxes varies substantially, from about 0.7 in Germany and Austria to 1.16 in Finland. A somewhat heterogeneous group of countries, composed by Greece, Ireland, The

Netherlands and Portugal, reveals the highest elasticity of indirect taxation. In all of these countries, direct taxes and social security contributions rank below. In particular, social security contributions, in all countries but Germany (0.43), are not far from the European average (0.76, the lowest value among the main categories of taxes, in line with *ex-ante* expectations). Moreover they do not show the greatest elasticity in any of the countries under consideration, whereas in many of them (Germany, Spain, France, Ireland, Netherlands, Portugal and Finland) the elasticity thereof is lower than that of the other sources of revenue. Finally, we observe once again that in the majority of countries there is a correlation between direct taxes on households and social security contributions. As already explained, the basis of the two levies is quite similar, and the fiscal burden is mainly borne by labour income.

3.2 *Budget balance effects*

The differences that we have discussed, in both the countries' revenue structures and in the budget elasticity of the various levies, would suggest that a macroeconomic shock could have an asymmetric impact on the different countries' revenue (and thus on their budget balances). To test this hypothesis we partially replicated the basic features of the standard method used to calculate budget sensitivity. A sample of EA-12 countries was selected, consisting of the "big four" - Germany, France, Italy and Spain - together with a Mediterranean country, Greece, a Nordic country, Finland, and three countries whose tax systems are characterized by certain particular features - Ireland, Luxembourg and the Netherlands. An increase of 1% in GDP was assumed, and the consequent tax increases were calculated using the previously-mentioned figures for elasticity. The overall results, as we shall see, show that the total tax increases generated are of a significant, albeit diversified, nature. The same can also be said for the main categories of revenue[10].

TABLE 4 HERE

A more detailed evaluation of the results (Table 4) shows that total EA-12 revenue increases by nearly 0.4 GDP points. The greater proportion of this rise can be attributed to direct taxes, and depends more on their elasticity to GDP than on their share of total taxation. If we now focus on

[10] Our results are not far off the latest EU and OECD estimates (EU Commission, 2011a), despite certain differences. Moreover, figures are broken down into the main categories of tax. As in the aforesaid estimation (and in the case of other similar estimates), we have not considered the impacts of tax increases on GDP or on other macroeconomic aggregates.

individual countries, we may observe that total tax sensitivity (around 0.5 GDP points) is higher than the EA-12 average in certain countries (Italy, the Netherlands and Finland). In all of these countries, the elasticity of both indirect taxes and social security contributions (in this lat case with the exception of Finland) is above the European average. Moreover, in Finland and in Italy, the more elastic direct taxes represent the main categories of levy (see Table 1). Values of total taxation close to the European average may be observed in France, Germany and Luxembourg. In France, total fiscal pressure is pushed up by the considerable elasticity of social security contributions, which account for a substantial proportion of total taxes (Table 1: 39.8 %). In Germany, the elasticity of the main categories of taxes does not differ much from the EA-12 figures. In Luxembourg, the substantial contribution of direct taxes (Table 1: 37.9 %) is the main factor bolstering tax sensitivity to GDP. Total tax sensitivity is lower (at about 0.3 percentage point) than the EA-12 average in Greece, Spain and Ireland. In Greece, the elasticity, and the share, of direct taxes is particularly low. In Spain, the elasticity of direct taxes and of social security contributions are well below the European averages, while the share of social security contributions is high (once again, see Table 1). Finally, in Ireland the elasticity of direct taxes and that of social security contributions are quite low. If we now look at the individual levies across the EA-12, we can see that, as expected, direct taxes generally appear to be the most sensitive to changes in GDP, followed by indirect taxes, with social security contributions bringing up the rear, albeit with certain exceptions.

To sum up, the differences in the composition of the various countries' revenue and in the levies' GDP elasticity give rise to some significant disparities in the effects that GDP changes have on tax revenue. Two main consequences follow. Firstly, those countries where the sensitivity of the taxes-to-GDP ratio is higher than the EA average (like Germany, Italy, the Netherlands and Finland), may benefit from greater automatic fiscal stabilization than those countries with lower-than-average tax sensitivity (like Greece, Spain and Ireland). Secondly, the significant effects that changes in GDP have on budgets vary considerably from one country to the next, depending on the revenue sensitivity of such countries. Thus, in those countries with a high degree of revenue sensitivity, revenue may contribute more to the budget balance when GDP increases (and less when GDP decreases), while the reverse is true for those countries with low revenue sensitivity. As a consequence, the ease, or difficulty, with which EU fiscal targets are achieved will differ from one Member Country to another, and will also depend on their macroeconomic context. This diversity should require, at least in principle, differentiated fiscal targets - especially the 3% deficit threshold -

[11]. However, this would not be an easy thing to implement at both the political and the technical level. While it is true that since the introduction of the SGP, a country's MTO must be a nearly-balanced budget or a budget surplus throughout the cycle (Franco, 1999 for all), the fact remains that Member Countries must do a different effort to reach budget targets in presence of non-just cyclical changes of GDP.

4. *Fiscal consolidation and differences in national taxation*

The EU Commission (2011b) has recently maintained past proposals for tax reforms, whilst at the same time establishing a route towards fiscal consolidation, which emphasizes the importance of the differences in Member countries' tax systems. The new proposal confirms the Commission's view according to which fiscal consolidation should preferably be achieved through spending cuts rather than through tax hikes[12]. Only when consolidation is of huge amount, may a contribution also be required from the tax side of the budget, possibly without curbing the growth of the economic system.

Considering consolidation first, the process suggested by the Commission is organized in three successive steps. Firstly, one has to ascertain whether fiscal sustainability exists or not[13].

[11] The nature of the EA's quantitative fiscal rules is widely known. Nevertheless, a brief reminder may prove useful here. The 1992 Maastricht Treaty (http://www.eurotreaties.com/maastrichtec.pdf) set limits of 3 per cent on a nation's deficit, and of 60% on its public debt. The 1997 "Stability and growth Pact (SGP)", (http://ec.europa.eu/economy_finance/economic_governance/_sgp/index_en.htm) introduced the so-called "Medium Term Objective (MTO)", which requires that the cyclically-adjusted budget be balanced or in surplus. The 2005 reform of the SGP required (http://www.euractiv.com/euro/stability-growth-pact/article-133199) that the countries which fail to observe the deficit and debt limits, cut the structural budget by 0.5 % of GDP yearly, as a mean throughout the economic cycle. The EU's latest estimates of cyclically-adjusted budget balances are reported in EU Commission, 2011d. In September 2010, two additional rules were introduced. Firstly, a requirement was introduced to limit expenditure growth to a pace in keeping with a "prudential" forecast of GDP growth. Secondly, the pace at which any debt in excess of the aforesaid 60% threshold is to be reduced has been set at an annual figure of 5% of the difference between the current value of the debt-to-GDP ratio and 60 % of GDP. Finally, at the present time (June 2012) the member countries are in the process of approving the so-called "Fiscal Compact" (http://european-council.europa.eu/media/639226/10_-_tscg.it.12.pdf.) which, *inter alia,* has taken up and rationalized all existing rules. More generally, on fiscal rules see Banca d'Italia, 2001, and in particular Balassone and Franco.

[12] According to the majority of recent studies, the underlying belief is that tax increases exert larger distortionary effects than expenditure cuts do, and may be more politically destabilizing. This conclusion also emerges from certain econometric estimates (see, for all, Alesina and Ardagna, 2009). However, this opinion is at odds with the views of other scholars and of certain international organizations (for all: Baldacci et al. (IMF), 2010). The growth-enhancing effects of welfare expenditure are discussed in Fuceri and Zdzienicka, 2012. For fiscal multipliers in the short term, see below. A highly theoretical approach, concerning fiscal consolidation, which emphasizes the role of expectations, can be found in Bi et al., 2012, while a number of interesting points of view may be found in Tanzi, 2012. The latest EU plans for fiscal consolidation are reported in EU Commission, 2010 and 2012.

[13] Sustainability is defined essentially as the balance between the present value of future taxes and the present value of expenditure entitlements. Put alternatively, the primary deficit surplus must be enough to stabilize the debt-to-GDP-ratio at a reasonable level and according to an acceptable timescale. More specifically, the Commission holds that sustainability is not assured when the initial primary deficit remains in excess of 2.5 points of GDP, and when a provision of 3.5 per cent is (was) not made to finance the expected increases in ageing-related costs. In fact, due account is also

Secondly, tax space must be available, in terms of a comparatively low overall tax burden, both when tax revenue increases have not been recently adopted, and when there is still scope for raising the less distortionary taxes (*i.e.* according to the Commission, essentially when consumer taxes' share on GDP is below the European average[14]). Thirdly, there must be some difficulties for reducing spending. The results of the adoption of these criteria are summarized in Table 5 below.

HERE TABLE 5

According to Commission, sustainability appears to require urgent consolidation - by various means including taxation - in a relatively limited number of countries, namely: Cyprus, Ireland, Spain, Greece and Portugal (see in particular the values of the sustainability gap, and the distance from the MTO). Slovakia (due to its poor initial budget position) would also require revenue to contribute towards fiscal consolidation[15]. In all of the aforementioned countries, there is a tax space (as in most of the "New Member Countries" and in Luxembourg). Moreover, no recent significant taxes increases have been adopted in any of the EA countries (with the exception of Cyprus).

As well as the need of consolidation, a large number of countries are calling for increases in less distortionary taxes, which in the Commission's view means a shift from direct/income taxes to indirect/consumer taxes. This shift has been firstly suggested in the case of five countries (Belgium, France, Germany, Italy and Finland) where the tax burden on labour remains high, the share of indirect/consumption tax is instead comparatively low (about 30% of total taxation, compared with an EA average of about 36%), but where no overall tax space is currently available. In Spain, Luxembourg and the Netherlands, the share of indirect/consumption taxes is relatively low, without an excessive burden on labour[16]. Some tax space would be available, particularly in Spain. According to the Implicit Rates on Consumption (ITR), Spain, Italy, Greece, Portugal, Slovakia and Cyprus have to raise consumption taxation (in the case of Greece, Portugal, Slovakia, Spain and Cyprus, this is also true as a result of consolidation requirements). Finally, there is particular scope for increasing property taxes in Germany, Finland, Greece and Slovakia, while such an increase could contribute towards achieving consolidation requirements in Greece and Slovakia.

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taken of the distance from the said Medium Term Objective (MTO) and of an indicator of fiscal risk, substantially related to the debt situation. On the question of fiscal sustainability and its relationships with the criteria of EA fiscal governance, see Banca d'Italia, 2000.

[14] Note that the Commission at present suggests exempting firstly low incomes and second earners from income tax.

[15] In many other countries, including Italy, specific bottlenecks in the area of fiscal policy/long term sustainability (high debts/deficits and/or ageing-related costs) do exist.

[16] The shift of taxation away from labour is also suggested when labour taxation is not high but labour markets are ill performing.

Therefore the Commission substantially confirms its previous ranking of the distortionary effects of the various types of levies (see, among others, and for a summary of the literature, Bernardi, 2009 and 2011), with reference to the long-term supply effects. From top to bottom: the taxation of capital, especially that of corporations; taxes and social security contributions levied on employees; consumption taxes; and finally, property and environmental taxation[17]. This ranking was somewhat accepted (by the author of this paper too) also on empirical grounds (see for all Myles, 2009[18]) until very recently, when it was criticized by various scholars (see Bocconi, 2011 for all). However, going beyond theoretical matters and empirical evidence (obtained in particular, although not exclusively, from neoclassical general equilibrium models of endogenous growth[19] and with reference to distortion effects), we should point out that the preceding arguments have completely disregarded the short-term effects of Keynesian demand in inflexible and non-full employment markets. Thus it is interesting to mention some recent empirical findings concerning the fact that indirect taxes may or may not be more deflationary than direct personal taxes. Before doing so, it is worth noting that in the present economic situation within the EU, the so-called "non-Keynesian fiscal effects" (a survey in: Gravelle, J.C. and Hungerford, T.L., 2011) do not seem at work (EU Commission (2010) and Pisauro (2012)). Hence Keynesian fiscal policy is particularly important in times of recession.

At present, the values of specific Keynesian taxes (de)multipliers appear debatable according to the available empirical evidence (see for all, VvAa, 2011). However, it could be that low distortionary taxes (like consumption taxes) also have a greater deflationary effect on demand. Initial evidence of this may be found in Table 6 below, which reports a study by the ECB (2004) of the short-term multipliers of the various levies. These findings are of a somewhat mixed nature. According to the estimated values of multipliers, a shift from PIT to indirect taxes would be restrictive in France and Germany (both in *t*), in Italy (*t* and *t+1*) and in the Euro Area (*t+1*). It would be expansionary in Germany, Portugal and Spain (*t+1*) and in the Euro Area (*t*). In the case of a shift away from social security contributions, restrictive effects would be felt in Belgium, France, Italy and Portugal (in *t*), while expansionary effects would only be seen in Germany and Portugal (in

[17] For a recent reference to the prevailing theory, see Kaplow, 2011 and Johnson and Myles, 2011, for all. As is widely known, one of the most hotly-debated issues regards the taxation of labour. For an update of the vast literature on this topic, see Keane, 2011, who specifically analyses the case of non-linear budget constraints.

[18] " *almost all the results support the claim that a move from income taxation to consumption taxation will raise the rate of growth* "

[19] Note that in these models, labour taxation is distortionary not only because of its effects on the labour market, but also due to the choices made on human capital accumulation and technical progress.

t+1) and in Spain (*t* and *t+1*). To sum up, the tax shifts towards consumption taxes considered here would be restrictive in ten cases, expansionary in eight cases, and neutral in the remaining five cases.

HERE TABLE 6

Hence, on the basis of this study, one may conclude that a tax shift, from PIT and social security contributions towards indirect/consumption taxes, may actually have deflationary effects on demand in a number of countries and situations, albeit not in all. Like the ECB, other international economic organizations have recently produced large-scale simulations of the effects of fiscal restraints achieved by means of different kinds of tax. The EU Commission (2010) has made a number of estimates of the multipliers associated with temporary tax shocks on labour, consumption, property and corporate income taxes. The cases considered were with or without credit constraints, and with or without a Zero Interest Rate Floor (ZIRF). The results are straightforward. The consumption taxes appear to be the more deflationary under all conditions, followed by labour taxes, property taxes and, finally, corporate income taxes. For example, in the worst scenario (credit constraints and ZIRF) the (de)multipliers' values are found to be: 0.0 for CIT; 0.2 for property tax; 0.6 for labour tax; and 0.7 for consumption taxes. Similar values, for both the EU and the US, have been obtained through the simulation of nine econometric models (Coenen, 2012). More mixed results are forthcoming, however, from other recent, more specific studies[20].

To sum up then, a number of points need to be emphasized with regard to these latest proposals by the Commission. Firstly, a general preference is assumed for consolidation based on spending cuts. A contribution from the tax side of the budget is only admitted, and under certain specific conditions, when consolidation requirements are particularly substantial and when spending cuts are difficult to afford. These conditions are somewhat restrictive (especially when considered

[20] Heppke - Falk (2006 (Bundesbank)), using the Blanchard - Perotti SVAR approach, find for Germany that the direct taxes bring down the output significantly, while indirect tax revenue shocks have little effect. On the contrary, according to Fair (2011), a consolidation of the US public debt would be less contractionary whether it is performed through an increase of the personal taxes than when realized by means of the introduction of a national sales tax. The opposite is true according to Albi and Martinez-Vazquez (2011) who have found that over a large set of countries (developed and developing) a 10 per cent increase of the direct-to-indirect tax ratio would reduce economic growth by 0.39 per cent and incomes' inequality by 1 per cent. This last result may seem at odds with the *a priori* hypotheses but one has to consider the greater efficiency of indirect taxes vs. the direct ones in developing countries. When the expected result (greater inequality in the case of indirect taxes) emerges, the usual suggestion is to introduce a benefit just in favor of the poor (in general Kaplow, 2011, and more specifically Johnson and Myles, 2011, for all). In the case of Italy, see Caprioli and Momigliano, 2012, who also conclude that consolidation by means of taxation is less costly than when performed through direct expenditure.

simultaneously, as required by the Commission), and they reduce the number of countries where consolidation is recommended also by means of taxation. This is partly at odds with member countries' recent experiences, whereby consolidation has been mostly achieved - temporarily at least - through tax increases, also given the longer timescale required for the implementation of spending cuts. Moreover, the Commission's most important advice is to increase consumption taxes and/or to shift part of the present fiscal burden on labour onto such taxes, especially in the case of low incomes and second earners. This may make tax systems more growth-friendly in terms of the efficiency of the supply side, and in the long run, but it may also be detrimental and recessive as the Keynesian short-term effects are taken into account, in an inflexible market where unemployment is pervasive. Finally, countries are subdivided according to the existing space for consumption taxation, which varies substantially from one member state to another (Tables 1 and 2).

5. *Conclusions*

Our analysis confirms the existence of considerable differences between the various EA countries' tax systems, in terms of the main sources of revenue, and between specific different levies. Moreover, there are considerable differences in GDP elasticity between different countries and different specific levies. Consequently, the countries' budget sensitivity vs. GDP changes is quite dissimilar as well in aggregate as with respect to the various specific taxes. This might call for country-specific fiscal rules which may well prove not easy from the political and technical points of view. However the fact remains that the only quantitative adjustment of fiscal rules consists in a cyclical adjustment when evaluating countries' MTOs and that Member Countries must do a different effort to reach budget targets in presence of non-just cyclical changes of GDP.

Moreover, the present EU Commission recommendations for tax reform and fiscal consolidation continue to focus on a shift from direct to indirect taxes. This may prove to be helpful in the long run, in terms of efficiency, but as we have pointed out, the shift may be deflationary in the short term at least, and thus inappropriate, given the present recession affecting the EA countries.

Finally, taken together, the aforesaid conclusions reinforce the long-standing need for better harmonization and coordination of the EA Member countries' tax systems. They need to achieve a more even budget sensitivity to changes in GDP, and to harmonize the choice of tools to be used for the purposes of fiscal consolidation.

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Table 1 - Levels and composition of total taxes - EA-17 2009
Percentage values

		Composition of total taxes						
	Total Taxes to GDP %	*Direct Taxes*	*Personal income taxes*	*Corporate income tax*	*Indirect Taxes*	*VAT*	*Excise Duties*	*Social Security Contributions*
IT	*43.1*	35.8	27.1	5.6	32.1	13.2	4.9	32.1
BE	*43.5*	36.7	28,0	5.8	29.9	16.0	4.9	33.4
LU	*37.1*	37.9	20.8	14.7	32.1	16.9	9.2	30.0
FI	*43.1*	38.3	31.2	4.7	31.9	20.3	8.0	29.8
Average	*41.7*	*37.1*	*26.8*	*7.7*	*31.5*	*16.6*	*6.8*	*31.3*
EL	*30.3*	28.0	16.9	8.0	37.8	21.1	8.4	34.2
IE	*28.2*	38.5	27.8	8.8	40.8	22.7	9.6	20.7
PT	*31.0*	29.2	18.5	9.3	41.7	23.0	8.8	29.0
MT	*34.2*	40.6	18.3	19.6	41.8	22.9	8.8	17.6
EE	*35.9*	21.0	15.9	5.2	42.4	25.2	14.0	36.6
CY	*35.1*	31.8	11.2	18.4	43.6	26.0	9.1	24.6
Average	*32.4*	*31.5*	*18.1*	*11.6*	*41.4*	*23.5*	*9.8*	*27.1*
AT	*42.7*	30.1	23.4	4.4	32.0	18.9	5.8	35.0
NL	*38.2*	31.8	22.5	5.6	32.0	18.4	6.0	36.2
DE	*39.7*	27.3	24.4	1.7	32.7	18.9	6.8	39.6
FR	*41.6*	24.5	18.0	3.0	36.4	16.3	4.9	39.8
SI	*37.4*	22.3	15.7	4.9	38.3	22.4	11.0	39.8
ES	*30.4*	32.8	23.1	7.6	29.5	13.5	7.1	40.7
SK	*28.8*	19.2	8.4	8.7	36.9	23.3	9.7	43.9
Average	*36.9*	*26.9*	*20.8*	*8.2*	*36.6*	*20.0*	*8.1*	*39.3*
EA-Average	*36.5*	*31.1*	*20.7*	*8.0*	*36.2*	*19.9*	*8.2*	*33.1*
Max-min	*19.1*	*19.1*	*19.6*	*17.9*	*14.1*	*12.5*	*9.1*	*26.3*
CV	*14.6*	*21.1*	*29.7*	*63.5*	*13.2*	*23.9*	*30.0*	*21.9*

Source: EU Commission 2011a and our own calculations.

Table 2 - Levels of taxes as percentage of GDP in EA-17 - 2009

Direct taxes		*PIT*		*CIT*		*Indirect taxes*		*VAT*		*Excise duties*		*Social Security Contributions*	
SK	5.5	SK	2.4	DE	0.7	ES	9.0	ES	4.1	FR	2.0	IE	5.8
EE	7.5	CY	3.9	EE	1.8	SK	10.6	IT	5.7	IT	2.1	MT	6.0
SI	8.4	EL	5.1	SI	1.8	IE	11.5	LU	6.2	BE	2.1	CY	8.6
EL	8.5	PT	5.7	EL	2.0	EL	11.5	IE	6.4	ES	2.2	PT	9.0
PT	9.1	EE	5.7	ES	2.0	LU	11.9	EL	6.4	NL	2.3	EL	10.4
ES	10.0	SI	5.9	FR	2.0	NL	12.2	SK	6.7	AT	2.5	LU	11.1
FR	10.2	MT	6.3	AT	2.1	DE	12.9	FR	6.8	EL	2.6	ES	12.4
IE	10.9	ES	7.0	MT	2.3	PT	12.9	BE	7.0	PT	2.7	SK	12.6
DE	11.0	FR	7.5	IT	2.4	BE	13,0	NL	7.0	IE	2.7	FI	12.8
CY	11.2	LU	7.7	BE	2.5	CY	13.3	PT	7.1	DE	2.7	EE	13.1
NL	12.1	IE	7.9	PT	2.5	FI	13.8	DE	7.4	SK	2.8	IT	13.8
AT	12.8	NL	8.6	IE	3.1	IT	13.9	MT	7.8	MT	3.0	NL	13.8
MT	13.9	DE	9.7	NL	4.1	MT	14.3	AT	8.1	CY	3.2	BE	14.5
LU	14,0	AT	10.0	SK	4.3	SI	14.4	SI	8.4	LU	3.4	AT	14.9
IT	15.4	IT	11.7	CY	4.4	AT	15,0	FI	8.8	FI	3.4	SI	15.0
BE	15.9	BE	12.2	FI	4.4	FR	15.1	CY	9.1	SI	4.1	DE	15.7
FI	16.5	FI	13.4	LU	6.8	EE	15.1	EE	9.1	EE	5.0	FR	16.6
EA-Average	*11.3*	*Average*	*7.7*	*Average*	*2.9*	*Average*	*13.0*	*Average*	*7.2*	*Average*	*2.9*	*Average*	*12.1*
Max-min	*11.0*	*Max-min*	*11.0*	*Max-min*	*6.1*	*Max-min*	*6.1*	*Max-min*	*5.0*	*Max-min*	*3.0*	*Max-min*	*10.8*
CV	*27.4*	*CV*	*38.6*	*CV*	*50.5*	*CV*	*13.1*	*CV*	*18.1*	*CV*	*27.2*	*CV*	*25.8*

Source: EU Commission 2011a and our own calculations.

Table 3 - The main taxes' budget elasticity to GDP in the EA countries

	Belgium	*Germany*	*Greece*	*Spain*	*France*	*Ireland*	*Italy*	*Luxembourg*	*The Netherlands*	*Austria*	*Portugal*	*Finland*	*EA-12*
Direct taxes on households	1.14	1.69	0.71	1.00	1.01	0.85	1.06	0.55	1.21	0.55	0.94	1.12	1.27
Direct taxes on enterprises	0.90	1.73	1.00	1.29	2.01	0.71	1.28	0.83	1.15	1.6	1.18	1.39	1.56
Indirect taxes	0.89	0.73	1.23	1.20	0.90	1.45	0.99	0.84	1.33	0.71	1.39	1.16	0.94
Taxes on goods and services	1.12	0.90	1.23	1.20	1.25	1.46	1.10	0.84	1.33	0.97	1.39	1.16	1.11
Social security contributions	1.00	0.43	0.81	0.61	0.89	0.73	1.06	0.82	0.96	1.00	0.78	0.94	0.76

Source: ECB data.

Notes: Data not available for Cyprus, Estonia, Malta, Slovenia and Slovakia.

Table 4 - Tax revenue sensitivity. Percent change in tax revenues (as a ratio of GDP) in response to a 1% change in the GDP. EA-12 - 2009

	France	*Germany*	*Greece*	*Spain*	*Italy*	*Luxenbourg*	*Netherlands*	*Finland*	*EA-12*
Total revenue	*0.39*	*0.42*	*0.29*	*0.29*	*0.47*	*0.38*	*0.51*	*0.46*	*0.39*
Direct taxes	0.1	0.18	0.07	0.11	0.17	0.14	0.18	0.18	0.16
Indirect taxes	0.12	0.12	0.14	0.11	0.15	0.12	0.18	0.16	0.11
Social contributions	0.17	0.12	0.08	0.07	0.15	0.12	0.15	0.12	0.12

Sources: .
ECB, EU Commission 2011a. Our own calculations

Table 5 - Overview of fiscal consolidation challenges

Country	*Higher taxes to help consolidation*	*Tax space available*	*No recent significant tax increases*	*Increasing least distotionary taxes*	*Sustainability gap indicator -2011*	*Distance from the MTO 2011*
BE			X	X	5.8	3.3
DE		(X)	X	X	4.1	0.9
EE		X	X		1.0	0.9
IE	X	X	X		15.5	9.0
EL	(X)	X	X	X	5.7	7.4
ES	X	X	X	X	8.5	4.3
FR			X	X	4.4	3.9
IT			X	X	1.4	2.7
CY	X	X		X	8.9	4.6
LU		X	X	X	13.3	0.2
MT		X	X		7.3	3.1
NL		(X)	X	X	7.6	2.0
AT			X		5.6	3.2
PT	(X)	X	X	X	5.8	4.9
SI		X	X		12.5	2.9
SK	(X)	X	X	X	7.1	4.8
FI			X	X	3.6	-0.3

Source : EU Commission services.

Notes : (X) depicts bordeline cases. The sustainability indicator is the sum of (-) primary balances and of expected increase of ageing expenditures. Details in EU Commission (2011b) and in the text.

Table 6 - Fiscal multipliers: effects on GDP of tax increases by GDP 1 per cent points. Euro Area and selected countries. Year 1 *(t)* and 2 (*t+1*).

	Belgium		*France*		*Germany*		*Italy*		*Portugal*		*Spain*		*Euro Area*	
	t	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*
Personal Income Tax	-0.15	-0.23	-0.21		-0.45	-0.91	-0.18	-0.45	-0.27	-0.67	-0.35	-1.02	-0.42	-0.63
Indirect taxes	-0.15		-0.53		-0.76	-0.53	-0.39	-0.52	-0.26	-0.41	-0.37	-0.65	-0.18	-0.76
Social security cntributions	-0.01	-0.18	-0.2		-0.85	-0.88	-0.1	-0.51	-0.18	-0.44	-0.52	-1.03	-0.2	-0.62
Qualitative effects on GDP of tax shifts to indirect taxes														
from PIT	=	n.a.	-	n.a.	-	+	-	-	=	+	-	+	+	-
from social contributions	-	n.a.	-	n.a.	+	+	-	-	-	+	+	+	+	-

Source: ECB, 2004.

Notes: Averages of national, EU (QUEST) and OECD (INTERLINK) models. Our own calculations.