

ALIGNING TAXATION AND INTERNATIONAL FINANCIAL REPORTING STANDARDS: EVIDENCE FROM ITALIAN LISTED COMPANIES

Giovanna Gavana^a, Gabriele Guggiola^b and Anna Marenzi^c

^a Giovanna Gavana, Department of Economics, University of Insubria, via Monte Generoso 71, 21100 Varese, Italy

^b Gabriele Guggiola, Centro Einaudi, via Ponza 4, 10121 Torino, Italy

^c Anna Marenzi, Department of Economics, University of Venice Cà Foscari, Cannaregio 873, 30121 Venezia, Italy

Abstract: We estimate the effect of adopting International Financial Reporting Standards results (IFRS) as the base for the regional business tax (IRAP). Analysing the unconsolidated financial statements of non-financial Italian listed companies, we simulate the change in the IRAP base where companies move from Italian Generally Accepted Accounting Principles (GAAP) to IFRS. The results show that the impact of the use of IFRS for the computation of tax figures is relatively important and that the sector in which companies operate has a decisive influence on the amount by which the taxable base differs. The empirical analysis suggests that the transition increases, on average, the IRAP base of around 15% and that companies in the constructions and utilities sectors suffer an additional burden of around 29% and 31%, respectively. Similarly to Italy, many European Member States are characterized by creditor protection oriented domestic GAAP and by a close link between tax and financial reporting and could therefore experience similar effects due to the use of a IFRS-based tax accounting.

Keywords: Taxation; Regional Business Tax; International Financial Reporting Standards (IFRS); Italy

J.E.L. *Classification:* H20; H25; M41.



1. Introduction

During the last decade the harmonisation process of financial accounting and reporting standards within European Union has known a substantive progress in force of EU Regulation 1606/2002, which requires all listed companies to prepare their consolidated financial statements in accordance with the International Financial Reporting Standards¹ (IFRS) from 2005 onward.

¹ International Financial Reporting Standards are principles-based accounting standards issued by the International Accounting Standards Board (IASB). The IASB is a private and

Corresponding author: Anna Marenzi, anna.marenzi@unive.it.

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Besides, Article 5 of EU Regulation gives each Member State the option to extend the application of IFRS to the unconsolidated financial statements².

Since in nearly every European country accounting results are the natural starting point for the computation of corporate taxation, the emergence of the IFRS as a leading framework for the preparation of financial statements³ could significantly affect the EU Member States' tax systems. The effect is expected to be higher in those countries in which the link between tax and financial accounting is closer and in which domestic Generally Accepted Accounting Principles (GAAP) and IFRS are less aligned (Freedman, 2004).

IFRS are developed without regard to their appropriateness for tax purposes, in the belief that accounting values shall be free from tax considerations (Wilson, 2001). Therefore, their increasing relevance within the national accounting systems raised the question of how IFRS can be matched with tax rules (Nobes, 2003; Freedman, 2004) and originated a debate on their suitability as a method of defining the corporate tax base (amongst others, Shön, 2004; Jacobs *et al.*, 2005; Oestreicher and Spengel, 2007; Lang *et al.*, 2008). This debate has been further enhanced as a consequence of the proposal from the European Commission to use IFRS as a starting point for the determination of a common consolidated tax base (European Commission, 2004; Gammie *et al.*, 2005). Up to now, few contributions in the literature provided an empirical evaluation on the impact of IFRS as a basis for corporate taxation and the results are ambiguous and not directly comparable (Spengel, 2003; Eberhartinger and Klostermann, 2007; Haverals, 2007).

The Italian context offers a valuable case study to analyze these issues and to empirically evaluate some of the implications of using IFRS for tax purposes. Unlike most of the EU Member States (European Commission, 2010), Italy has made the choice to require the use of IFRS also as concerns the unconsolidated financial statements of certain kind of companies (see section 2.1). Further, a certain degree of fiscal relevance has been assigned

independent standard setter which fundamental objective is to develop a single set of high quality accounting standards able to increase the transparency and the comparability of financial statements language around the world.

² The expression «unconsolidated financial statements» identifies the financial statements prepared by a company as a stand-alone legal entity. In Italy the corporate taxation is based on the unconsolidated financial statements results. The Italian tax system allows the group taxation but the computation of the group taxable base still refers to the unconsolidated financial statements results of the holding and its subsidiaries.

³ The convergence of domestic GAAP to IFRS has been involving EU companies through the EC Regulation No.1606/2002 and through the acknowledgment of the European Union Directives 2001/65/E.C., 2003/51/E.C. and 2006/46/E.C..

to the new set of accounting standards. This is especially true in the case of the regional business tax (Imposta Regionale sulle Attività Produttive, IRAP) for which the computation of the taxable base strongly adheres to financial statements values, regardless of the set of accounting standards adopted.

Assuming a scenario where taxation completely adheres to IFRS financial statements values, we simulate the effect of the transition to the new accounting regime on companies' IRAP burden. Our empirical study relies on 166 non-financial companies listed on the Italian Stock Exchange that changed to IFRS compulsory by the financial year beginning on or before January 2006. According to IFRS 1⁴, these subjects had to restate their 2005 income statements from Italian GAAP to IFRS. The availability of the two sets of financial statements for the same reporting year allows us to examine how identical transactions are accounted for under Italian GAAP and IFRS.

The results of the simulation indicate that the use of IFRS as a base for the computation of tax figures increases, on average, the IRAP base of around 15%, with significant differences among sectors. The broadening of the taxable base is principally due to a later recognition of production costs under IFRS rules compared to the Italian accounting ones.

Our results have some limitations. The simulation is focused on the year of the transition, so that the increase in the IRAP base depends, to a certain extent, on temporary differences associated with the different rules of time imputation of revenues and costs under Italian GAAP and IFRS. These differences will reverse in the subsequent years, smoothing the impact on the companies' tax burden during the first application of IFRS. Clearly, it would be interesting to isolate the temporary differences from the permanent ones, but the financial statements values calculated both in accordance with Italian GAAP and IFRS are available only for the year before the first adoption. However, our results are significant because to postpone or anticipate tax payments may cause a change in discounted tax burden and may occur in liquidity constraints. More, the higher tax burden shouldered by companies in the transition to IFRS might discourage the decision to list in the stock market, by adding an additional cost to the usual IPO-related costs.

The fact that we refer to year 2005, whilst IFRS become relevant for tax purposes as from the fiscal year 2008, may have overestimated the increase

⁴ IFRS 1 («First-time Adoption of International Financial Reporting Standards») sets out the procedure an entity must follow when it adopts IFRS for the first time. The procedure grants limited exemptions from the general requirement to comply with each IFRS effective at the end of the first IFRS reporting period.

in the IRAP base to the extent that managers were still not impelled to exercise their discretion in order to minimize the tax burden⁵.

The paper proceeds as follows: Section 2 describes the enforcement of IFRS in Italy in the light of the connections between tax and financial reporting; the research design, the empirical analysis and the presentation of the results are provided in Section 3, whilst the last Section offers some concluding remarks.

2. *IFRS and taxation in Italy*

2.1. *IFRS in the Italian context*

According to the E.C. Regulation No. 1606/2002, the Italian legislator exercised the option to extend the use of IFRS to unconsolidated financial statements. In particular, the Legislative Decree 28th February, 2005, No. 38, states that listed companies, banks and other financial institutions are required to adopt IFRS, both for consolidated and unconsolidated financial statements, whilst unlisted companies preparing consolidated financial statements in accordance with IFRS and all subsidiaries within IFRS groups are permitted to use them for the preparation of the unconsolidated financial statements⁶. Unlisted manufacturing, commercial and services companies that are not subsidiaries within IFRS groups must draw up their unconsolidated financial statements in accordance with Italian GAAP. Finally, SMEs preparing their financial statements in the abridged version (Article 2435bis, Italian Civil Code)⁷ are prohibited to adopt IFRS even if they are subsidiaries in IFRS groups.

As already mentioned, among the Member States with creditor protection oriented domestic GAAP and with a close connection of financial and tax accounting, Italy, together with Greece, is the only one that introduces the mandatory adoption of IFRS for the unconsolidated financial statements (EU, 2010). This choice can be seen as an attempt to reconcile the objective

⁵ Gavana *et al.* (2013) provide evidence that, for some accounting arenas, companies using IFRS have in mind tax implications in preparing their financial statements.

⁶ It should be noted that, though the mandatory adoption of IFRS for the consolidated financial statements started from 2005, an earlier adoption was permitted from 2004; for the unconsolidated financial statements the mandatory use of IFRS started from 2006 and an earlier adoption was permitted from 2005.

⁷ The abridged form of the financial statements is permitted if a company in the first year of business or for two consecutive years does not exceed two of the following limits: 50 employees, 8.8 €/mln of turnover and 4.4 €/mln of fixed assets.

to provide companies with a high quality and globally comparable financial information with the risk that a voluntary adoption would have been discouraged by the cost of keeping a double track of accounting records for tax purposes (Nobes, 2008).

The number of Italian companies adopting IFRS for consolidated accounts was 349 in 2005, 497 in 2006, 575 in 2007 and 626 in 2008; the number of Italian companies adopting IFRS for unconsolidated accounts was 413 in 2005, 1,708 in 2006, 1,959 in 2007, and 2,087 in 2008⁸. Among companies which adopted IFRS on a voluntary basis in 2006 and 2007, Cameran (2010) finds that about 75% is part of a group where the parent company is a listed company obliged to use IFRS. With reference to the first adoption of IFRS (year 2006), we have found that, excluding banks and other financial institutions, more than 80% of unlisted subsidiaries in IFRS groups prepared their unconsolidated financial statements following IFRS⁹.

However, the Italian economy is characterized by the predominance of micro or small enterprises and closely held companies, which finance are principally sourced from banks. Thus, the Legislator still requires the most Italian companies to follow domestic GAAP, which are more suitable to serve the creditors' information needs¹⁰.

The sphere of influence of IFRS in the Italian context is expected to enlarge as a consequence of the publication of the Standard for small and medium enterprises («IFRS light»)¹¹ that might allow these companies to produce internationally comparable financial information as an alternative to the costly full IFRS. Therefore, the analysis of the issues raised by the introduction of IFRS might gain an increasing relevance.

2.2. *The relationship between IFRS and taxation in Italy*

In Italy, the link between accounting and taxation has a long tradition and dates back to the general tax reform of the 1973-1974. The reform set a

⁸ See ECCBSO, IFRS Impact, III Working Group on IFRS Impact and CBSO database, Document No. 1, October 2010, Innsbruck.

⁹ AIDA data set and data collected from Italian Stock Exchange website.

¹⁰ The evolution of accounting harmonisation process in Italy with particular attention to the implementation of IFRS is analysed by Delvaille *et al.* (2005), Provasoli *et al.* (2007), Cris-tea and Saccon (2008), Dunne *et al.* (2008), Mechelli (2009) and Di Pietra (2010).

¹¹ IASB has published, on July 9th 2009, an International Financial Reporting Standard designed for use by SMEs. In brief, topics considered not relevant for SMEs have been omitted by the standard and, where IFRS allow alternative accounting treatments, IFRS for SMEs only allow the easier one.

statutory and direct relationship between financial and tax accounting (Rocchi, 1996; Zambon, 2002). The derivation principle, codified in the Italian Tax Code¹², assumes that taxable income is computed on the basis of accounting results, with specific and limited adjustments required by the tax law when accounting criteria are not suitable for tax purposes¹³. This relationship is strengthened by the requirement that expenses must be included in the income statement in order to be considered as tax deductible¹⁴.

This close linkage between tax and financial reporting has been favored by the fact that the principles driving the Italian accounting system are generally suitable for tax purposes. The use of the prudence principle in presenting the true and fair view of a company's financial position and results of operations implies that unrealised gains cannot be included in the measurement of accounting results and that the valuation criteria are closely related to historical costs. Such an accounting approach is in line with the taxation at realization accepted in the design of modern tax systems (Gammie *et al.*, 2005). The legal form approach of the Italian accounting system meets tax requirements, as it reduces the need of judgment by tax authorities in verifying the right qualification of transactions.

The introduction of IFRS for the preparation of the unconsolidated financial statements of listed companies, in 2006, immediately raised the question of how to regulate the relationship between the new set of accounting standards and tax rules (see, amongst others, Mastellone, 2011). Therefore, in order to preserve equal tax treatment (neutrality) between IFRS adopters and non-IFRS adopters and to maintain financial statements under Italian GAAP as a basis for taxation, the legislator denied any fiscal relevance to IFRS, both for the corporate income tax (Imposta sul Reddito delle Società, IRES) and for the regional business tax (Imposta Regionale sulle Attività Produttive, IRAP)¹⁵.

The solution imposed, *de facto*, a two steps approach: firstly, IFRS adopters had to convert their financial reporting figures in accordance with Italian GAAP and, secondly, they had to make all the adjustments required by tax law in order to compute the taxable income. On one hand, this procedure significantly increased companies' compliance costs and, on the other hand, as a consequence of the absence of detailed fiscal guidelines, many uncer-

¹² Art. 83, Testo Unico Imposte sui Redditi (TUIR).

¹³ The most important adjustments required by tax law refer to depreciations and amortisations, provisions and interests expenses.

¹⁴ Presidential Decree December 22nd, 1986, Articles 83 and 109 (paragraph 4).

¹⁵ Legislative Decree No. 38/2005.

tainties emerged, originating an abnormal increase in interpretation queries to the fiscal agency (Zizzo, 2011).

These drawbacks highlighted the need for modeling in detail the linkage between IFRS and taxation. Thus, the Finance Act 2008¹⁶ assigned fiscal relevance to financial statements values for the regional business tax and recognised some relevant aspects of IFRS in relation to the corporate income tax¹⁷.

2.3. The regional business tax base under Italian GAAP and under IFRS

IRAP is a flat tax levied on the company's value added net of amortisations and depreciations¹⁸. The taxable base is computed as the difference between the value of production and the cost of production, excluding write-down of tangible and intangible assets, write-down of trade receivables, expenses for risk and other provisions and some components of the labour cost¹⁹.

Since fiscal year 2008 the alignment of tax and financial accounting has been strongly enhanced because the items relevant for the calculation of the IRAP base are those presented in the income statements, regardless of the set of accounting standards adopted. The items into the perimeter of the IRAP base are identified with reference to the Italian GAAP income statement format (Art. 2425, Italian Civil Code). Therefore, IFRS adopters have to compute the IRAP base by identifying, within the aggregates pre-

¹⁶ Law December 24th, 2007, No. 244 and subsequent Decree by the Ministry of Economy and Finance, April 1st, 2009, No. 48.

¹⁷ Tax rules recognise fiscal relevance to IFRS qualification, timing imputation and classification criteria. The qualification criterion concerns the selection and allocation, within a reference scheme, of the relevant events in order to allow their representation in the financial statements; the classification criterion drives the allocation of the main events in the financial statements on the basis of the category of the source of income (revenues, interests, etc.); finally, the temporal imputation criterion concerns the allocation of the events across different accounting periods.

¹⁸ At present, for industrial and commercial companies, the standard rate is fixed at 3.5%, subject to possible regional surcharges (Law Decree No. 66/2014, Article 2).

¹⁹ As from fiscal year 1998 the entire amount of occupational injuries insurance contributions is deductible; as from July 2007 the social security contributions for permanent employment contracts (excluding companies in the public utilities sector) are deductible (Legislative Decree, Article 11, paragraph 1, letter a), as modified by Law 23th December, 2006, No. 296) in alternative to the lump-sum deductions introduced by various legislative interventions (Law 23th December, 2006, No. 296, Law Decree No. 201/2011 and Law 24th December, 2012, No. 228). Further, as from fiscal year 2012 the portion of IRAP attributable to the non-deductible part of the labour cost is fully deductible from the IRES base (Article 2, Law Decree No. 201/2011).

sented in their income statements, the items that match those one included in the value of production and in the cost of production according to Italian GAAP.

The tax adjustments to the financial statements values are now limited to a few exceptions. For example, different from the financial statements measurement criteria (see the Appendix), tax law requires goodwill and brands to be amortised over 18 years, on a straight line basis²⁰. Another exception refers to the amounts relevant for the IRAP base that, according to IFRS, should be credited to the revaluation surplus within the equity (and presented in «Other Comprehensive Income»)²¹; since those amounts are not recorded in the income statements prepared according to the Italian GAAP Format, tax law does not assign fiscal relevance to these kinds of revaluations²².

Table 1 reports the components of the IRAP base in detail.

In order to assess how the move from Italian GAAP to IFRS potentially influences the IRAP base, we analyze the key differences between the two sets of accounting standards that affect the recognition and the measurement criteria of the items relevant to the taxable base.

In general, three are the main sources of divergence. First, the accrual basis of accounting under IFRS is likely to result in a faster recognition of the value of production by recording revenues from the rendering of services and of construction contracts over the period during which the activity is performed (percentage of completion method). Second, the use of the fair value accounting affects the cost of production if IFRS adopters apply the revaluation model for the measurement of tangible and intangible assets. When prices rise the asset value increases as well as the depreciation or amortisation expenses. Since Italian GAAP do not permit any revaluation above the historical cost, the impact of moving towards IFRS is expected to be a reduction of the IRAP base²³. The reference to the current market prices also emerges for the evaluation of inventories. In fact, IFRS adopters are not allowed to opt for the LIFO cost formula. Third, in the IFRS arena the substance over form principle works by determining a different accounting qualification of some transactions with respect to Italian GAAP. Since this princi-

²⁰ Legislative Decree 446/1997, Article 5, paragraph 3, as modified by Article 1, paragraph 50, letter a), Law December 24th, 2007, No. 244.; Article 11, paragraph 1, Decree of the Ministry of Economy and Finance, June 8th, 2011.

²¹ Article 2, paragraph 2, Decree of the Ministry of Economy and Finance, June 8th, 2011.

²² For example, when the revaluation model is applied for the measurement of property, plant and equipment (IAS 16) or intangible assets (IAS 38).

²³ Nota???



TAB. 1. *The components of the IRAP base*^a

	Cost of production	
	deductible items	non-deductible items
Revenues	Raw and ancillary materials, consumables and goods	Labour cost (other than social insurance contributions)
Change in inventories of finished products and work in process	Services	Write-down of tangible and intangible assets
Change in construction contracts	Use of third party assets (leased assets)	Write-down of trade receivables
Increase in internal works capitalized under fixed assets	Occupational injuries insurance contributions Social security contributions ^b Depreciation of tangible assets Amortisation of intangible assets and goodwill Change in inventories of raw and ancillary materials, consumables and goods	Expenses for risks and other provisions

Notes: ^a As derived from the income statement according to Article 2425, Italian Civil Code; ^b Only for permanent employment contracts, excluding companies in the public utility sector; the deduction is alternative to the lump-sum deductions regime.

ple affects either the value of production (sales of goods that imply a subsequent rendering of services and «sell and buy-back agreements») or the cost of production (financial lease), the overall impact on the IRAP base depends on the weight of these transactions on a company's business and hence on the income statements structure.

In detail, with reference to each item of the IRAP base, the comparison of the accounting rules suggests that the adoption of IFRS instead of Italian GAAP might affect companies' tax burden as reported in Table 2. Column 1 lists the components of the IRAP base affected by the shift to IFRS and Column 2 reports the expected effects on the computation of the taxable base. We score a positive sign (+) when the use of IFRS might lead to a higher/faster recognition of the IRAP base; a negative sign (-) is scored when the use of IFRS is expected to cause a lower/slower recognition of the taxable base. The relevant accounting rules and the explanations on how the signs have been assigned are reported in the Appendix.

Table 2 suggests that the IRAP base is likely to differ between IFRS subjects and companies under Italian GAAP. However, the presence of both negative and positive signs does not indicate unambiguously if the tax base would expand or decrease. The overall impact clearly depends on how the conceptual divergences between Italian GAAP and IFRS translate into differences in the value of accounting items and on the weight of each item

TAB. 2. *Expected effects of adopting IFRS on the IRAP base*

Items of IRAP base	Expected effect
Value of production (taxable items):	
Revenues from:	
a) the sale of goods	-
b) the rendering of services	+
c) construction contracts	+
d) sales with buy-back commitment	-
Change in inventories of finished products and work in progress	+
Change in construction contracts	+
Increase in internal works capitalized under fixed assets	+
Costs of production (deductible items):	
Expenditures on research, advertising and start-up costs	-
Use of third parties assets (leased assets) +	
Depreciation of tangible assets:	
- <i>cost of dismantlement, removal or restoration</i>	-
- <i>capitalization of interests expenses</i>	-
- <i>revaluation model</i>	-
- <i>component approach</i>	+/-
Amortisation of intangible assets:	
- <i>revaluation model</i>	-
- <i>discontinuance of amortisation of goodwill and intangible</i>	
assets with indefinite useful life	+
Change in inventories of raw and ancillary materials, consumables and goods	+

Notes: + = higher or faster recognition of tax base components in moving from Italian GAAP to IFRS.
 - = lower or slower recognition of tax base components in moving from Italian GAAP to IFRS.

reported in Table 2. In this respect, the sector in which the company operates affects the structure and the nature of costs and revenues and, thus, it is expected to play a role in causing the differences in the IRAP base.

Some effects highlighted in Table 2 might not occur when IFRS allow alternatives accounting treatments and companies choose the option closer to Italian GAAP requirements. Thus, the accounting practice influences the implementation of IFRS and our empirical research, based on the financial statements values, takes into account this fact.

3. *Consequences of IFRS-based tax accounting on tax burden of non-financial Italian listed companies*

3.1. *Data and sample*

Our study simulates the impact on Italian companies' tax burden due to the move from domestic GAAP to IFRS using original data from the uncon-

TAB. 3. *Frequency of companies by sector and financial ratios*

Sector	N. of companies	Revenue/ total assets	Labor costs/ revenue	Equity/ total assets	Return on equity
All	166	0.59	0.26	0.48	0.02
Manufacturing	90	0.71	0.19	0.45	0.04
Trade and services	54	0.56	0.40	0.51	-0.04
Utilities	14	0.21	0.26	0.51	0.05
Construction	8	0.28	0.18	0.56	0.08

Notes: The ratios are calculated in accordance with Italian GAAP figures, data in €/1000.

solidated financial statements of non-financial companies listed on the Italian Stock Exchange (*Borsa Italiana*) as at 31st December 2006, which have completed the transition to IFRS. We have excluded subjects which activity is markedly different from the others (i.e. soccer teams), those that incurred in mergers and acquisitions in the year of the transition and those not exhibiting sufficiently detailed data for the purpose of the analysis. After the above corrections, the number of eligible companies is 166²⁴.

Data is collected from the AIDA data set (Bureau van Dick)²⁵ and from the companies' unconsolidated financial statements available on the Italian Stock Exchange website.

In order to have accounting figures comparable with those presented in 2006, the first time adoption of IFRS required listed companies to restate their 2005 unconsolidated financial statements from Italian GAAP to IFRS. These sets of financial statements for 2005 are thus based on identical underlying economic activities and are fully specified according to two different accounting regimes. Moreover, companies were required to explain how the transition affected their financial position, financial performance and cash flows through a specific reconciliation statement²⁶. Therefore, financial statements values calculated both in accordance with Italian GAAP and with IFRS are available for the year before the adoption of IFRS, and thanks to the reconciliation statement, the reasons for the differences are clarified. Hence, our reference year is 2005²⁷.

Table 3 reports the frequency of companies by sectors and shows some basic financial ratios.

²⁴ The total number of non-financial listed companies was 193.

²⁵ The AIDA data set, provided by Bureau van Dick, contains the unconsolidated financial statements of Italian companies as deposited at the Chambers of Commerce.

²⁶ The analysis of the reconciliation statement has been extensively used in the literature in order to evaluate the impact of the transition on various accounting variables and key economic and financial indicators (amongst others Aisbitt, 2006; Horton and Serafeim, 2010; Callao, 2007).

²⁷ For companies that opted for an early adoption, we used data referring to 2004.

For each company in our sample we simulate the IRAP base under Italian GAAP and under IFRS as the difference between the value of production and the deductible items of the cost of production.

As already pointed out, starting from 2008 a relevant progress towards the alignment between tax and accounting rules has been taking place, so that the differences are confined to a few cases. For this reason, we keep exclusively the values reported in the income statements without considering the tax adjustments.

To assess the quantitative impact of the transition to IFRS on the IRAP base we calculate the total and partial percentage changes (TPC and PPC). The TPC measure the distance between the taxable base calculated in accordance with the two accounting system; a positive (negative) value of the TPC signals that the taxable base calculated in accordance with IFRS figures is higher (lower) than the one under Italian GAAP figures. The PPC measure the contribution of the accounting aggregates in explaining this distance 

We test the significance of the (total and partial) percentage changes using parametric two tailed t-tests.

3.2. *The results*

The distribution of companies by the range of variation in the IRAP base (TPCs) due to a shift to IFRS is shown in Figure 1.

The simulation process confirms that the use of IFRS is not tax neutral. The majority of the companies (117 over 166) experiences an increase in the tax base. For 80 of them this increase is lower than the 25%, but for 37 of them it is more pronounced. For 50 companies, vice versa, the IRAP base decreases, though this reduction is, in most cases (41), lower than the 25%. We tested whether the results of the simulation are influenced by the limited number of companies per sector. Removing the firms in the lower and upper tail of the TPC distribution, the check reveals for the entire population and for each sector a reduction in the magnitude of the effect on the tax base, which is especially relevant for the Utilities²⁸, while the significance and the interpretation of our results do not change.

The total percentage changes reported in Table 5 indicate that the average impact of a IFRS-based tax accounting is statistically significant and rela-

²⁸ For Utilities and Constructions, the two smaller sectors of our population, the value of TPC goes, respectively, from 31% to 21% and from 29% to 26%, while remaining markedly above the average.

TAB. 4. Total and partial proportionality percentage changes

$$TPC = \frac{Irap\ tax\ base_{IFRS} - Irap\ tax\ base_{ITGaap}}{|Irap\ tax\ base_{ITGaap}|}$$

$$PPC_i = \frac{Partial\ adjustment\ due\ to\ component\ i}{|Irap\ tax\ base_{ITGaap}|}$$

$$TPC = \sum_i \frac{PPC_i}{|Irap\ tax\ base_{ITGaap}|}$$

TAB. 5. Overall tax impact: total percentage change

	N. of companies	TPC (Mean)
All companies	166	0.154*** (0.456)
Manufacturing	90	0.142*** (0.376)
Trade and services	54	0.116 (0.535)
Utilities	14	0.310* (0.647)
Construction	8	0.287** (0.330)

Notes: Standard deviation in parenthesis. Level of significance: ***1%; **5%; *10%.

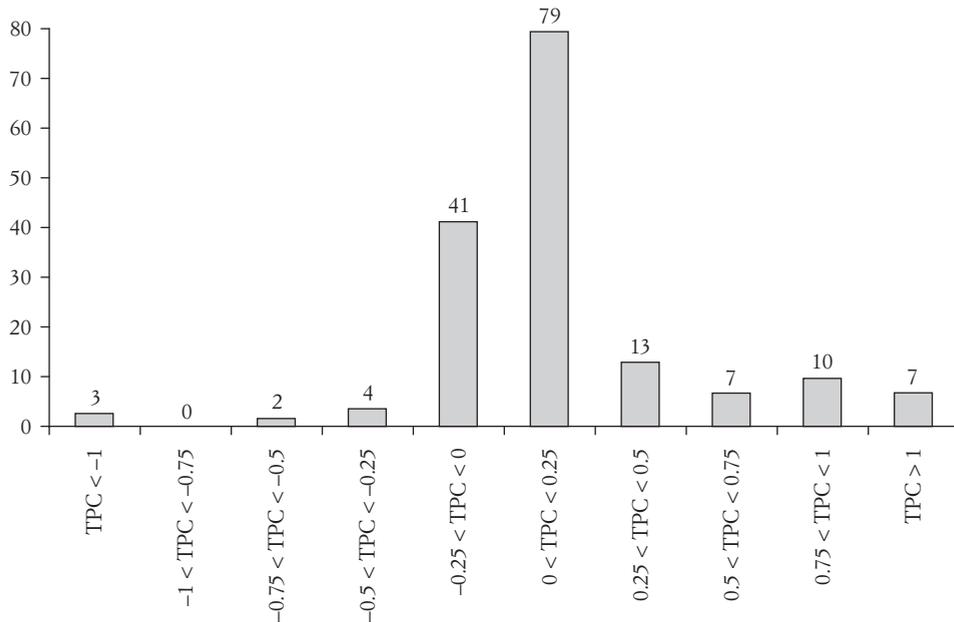


FIG. 1. Distribution of companies by range of variation in the IRAP base (TPC).

tively important (+15.4%) and that the sector in which companies operate has a decisive influence on the amount by which the taxable base differs.

In order to explore how the accounting aggregates (value of production, cost of production, deductible costs) contribute to generate the estimate gap between the IRAP base under Italian GAAP and under IFRS, we compute the partial percentage changes.

The PPC are reported in Table 6.

With reference to all companies, the increase of 15.4% in the taxable base (TPC of +0.154) is due to a lower/slower recognition of the value of production that reduces, on average, the taxable base of 10.7% (PPC of -0.107) and of a lower/slower recognition of the deductible costs that increases it, on average, of 26% (PPC of +0.26).

The level of aggregation of financial statements values does not allow us to estimate the contribution to the change in the IRAP base of each accounting items included, respectively, in the value of production and in the aggregate of deductible costs. However, we can consider the findings of our preliminary analysis based on the comparison between accounting rules (Table 2), to gain more information for explaining the results of the simulation.

For what concerns the value of production, the average PPC is negative and significant. The signs reported in Table 2 suggest that the change to IFRS should reduce the IRAP base in the arenas of revenues from the sale of goods and from the sales with a buy-back commitment. In both cases IFRS require the transactions to be accounted for and presented in accordance with their substance and economic nature and not merely in accordance with their legal form (for details, see the Appendix). In the arena of the sale of goods, the substance over form principle results in the revenue segmenting approach: when the selling price of a product includes an identifiable amount concerning subsequent related services, that amount shall be separated and recognised over the period during which the service is performed. The revenue segmenting does not apply under Italian GAAP. In the arena of the sales with a buy-back commitment, the substance over form principle leads IFRS to treat these types of contracts similarly to operating leases, as not all significant risks and rewards of ownership are transferred to the buyer. Conversely, Italian GAAP recognise a revenue from disposal at the time of transfer of the legal title.

The IFRS conversion implies a relevant reduction in the deductible costs that leads to an increase of the IRAP base. In fact, the average PPC is positive and statistically significant. According to Table 2, the positive sign of PPC should be mainly due to the reporting method for financial lease and to the lower amortisation expenses regarding intangible assets with indefinite useful life and goodwill and to the change in inventories (for details, see the

Tab. 6. *Component analysis: partial percentage change*

Topics of the tax base	All companies	Manufacturing	Trade and services	Utilities	Construction
Value of production	-0.107** (0.549)	-0.119** (0.560)	-0.147* (0.594)	-0.024 (0.429)	0.144 (0.228)
Cost of production	0.225*** (0.655)	0.222*** (0.699)	0.229** (0.699)	0.321*** (0.292)	0.112 (0.247)
<i>of which</i> : deductible costs	0.261*** (0.627)	0.262*** (0.636)	0.263*** (0.701)	0.334*** (0.369)	0.142 (0.228)
Total (TPC)	0.154*** (0.456)	0.142*** (0.376)	0.116 (0.535)	0.310* (0.647)	0.287** (0.330)

Notes: Standard deviation in parenthesis. Level of significance: ***1%; **5%; *10%.

Appendix). Under IFRS the leased assets are depreciated over their expected useful life, whilst Italian GAAP recognise the lease payments over the lease agreements term that, generally, exceeds the useful life of the assets. Intangible assets with indefinite useful life and goodwill have a relevant weight on companies' financial statements²⁹ and, in accordance with IAS 38, they are not amortised but tested for impairment in each accounting period. The discontinuance of the amortisation process leads to a lower/slower recognition of the costs³⁰. Regarding the change in inventories of raw materials and goods, the LIFO method, widely applied by Italian GAAP subjects, is not admitted under IFRS, so that when prices are increasing, the tax base should rise. In addition, a specific difference might arise in depreciating the tangible assets when companies under IFRS apply the component approach, which is an accounting treatment unknown to Italian GAAP. IFRS prescribe that significant components of a fixed asset with different useful lives shall be recorded and depreciated separately. However, the application of the component approach could reduce or increase the IRAP base depending on the useful life of each component compared to the useful life of the asset as a whole.

It should be pointed out that the impact on the IRAP base due to the change in the cost of production might be overestimated by the fact that we assume the book and tax accounting conformity, without considering the fiscal adjustments still in force. In this respect, the two most relevant of these adjustments derive from the fiscal treatment of brands and goodwill and of the revaluation surplus recorded within the equity.

²⁹ The value of the goodwill in the balance sheet of the companies in the sample amounted (in 2005 Italian GAAP values) to 3.14% of total assets.

³⁰ A similar result is obtained in Cordazzo (2013) that detects a positive impact on net income due to the application of IAS 38 by a sample of Italian listed companies.

Tax law requires to amortise brands and goodwill over 18 years, whilst IFRS financial statements do not report the amortisation expenses. Consequently, the cost of production presented in the financial statements is lower than the one resulting from the tax return and the effective IRAP base should be lower than the one we estimate.

When the revaluation model is applied (for the measurement of property, plant and equipment or intangible assets) and the revaluation occurs in an increase in the asset value, the emerging surplus directly affects the company's equity and it will assume fiscal relevance at the disposal of the asset. From the fiscal point of view, the depreciation and amortization expenses are calculated on the historical cost³¹. Consequently, the cost of production presented in the financial statements is higher than the one resulting from the tax return and the effective IRAP base should be higher than the one we estimate.

Looking at the sectors, the results show that utilities and constructions have the value of TPC markedly above the average (31% and 28.7% respectively).

For the utilities sector, the TPC is almost entirely explained by the impact of the deductible costs (PPC of +0.334), while the difference in the value of production (PPC of -0.024) is less relevant because the use of the percentage of completion method for the recognition of revenues from the rendering of services is likely to offset the items reducing the value of production. The construction sector is the only one with a positive, but not statistically significant PPC of the value of production (+0.144). Being characterized by a multi-year building activity, companies in this sector widely refer to the percentage of completion method for the recognition of the contract revenues. This fact may explain the higher/faster recognition of the value of production.

4. *Conclusions*

The results of our analysis, although in a simplified scenario, show that the impact on the IRAP base of aligning tax accounting to IFRS values is relatively important and that the sector in which companies operate has a decisive influence on the amount by which the taxable base differs.

The transition to IFRS increases, on average, the IRAP base of around 15%. According to our findings, the broadening of the taxable base is prin-

³¹ In order to deduct the amortisation expenses on the revalued amount, IFRS adopters should pay a substitute tax levied on the revaluation surplus.

cipally caused by a later recognition of production costs under IFRS rules compared to the Italian accounting ones.

The increase of the taxable income is in line with previous studies that, referring to the Italian institutional setting, investigated the effects on the financial statements of moving from domestic GAAP to IFRS and found evidences of relevant differences between the two accounting systems (Cortesi *et al.*, 2009; Cordazzo, 2013)³². The main contribution of our estimates is to provide new evidences of how different sectors, such as construction and utilities, have much greater percentage increase in their taxable base (+28.7% and +31%, respectively).

The simulation shows that companies in similar economic situation face a different tax burden depending on the set of accounting standard adopted. For instance, companies entering the stock market (required to use IFRS) are clearly disadvantaged, at least in the first year adoption, with respect to their unlisted peer. This effect, unevenly distributed across sectors, might discourage the decision to list, by adding an additional cost to the usual IPO-related costs. This kind of distortion is particularly significant in Italy, where a relatively low number of listed companies exist. For the same reason, companies permitted to adopt IFRS (e.g.: unlisted companies in IFRS groups) might be deterred to voluntarily embrace the new set of accounting standards.

Our findings are interesting also in a EU perspective. Similarly to Italy, many European countries are characterized by creditor protection oriented domestic GAAP and by a close link between tax and financial reporting (Nobes, 2008) and could therefore experience, during the transition, a similar increase of the tax base if IFRS were a starting point for taxation. This fact could obstacle the EU strategy to reach the convergence of domestic GAAP with IFRS, because companies, if allowed to choose between alternative sets of accounting standards, might prefer domestic GAAP in order to obtain a lower/slower recognition of the tax base.

However, the paper suffers some limitations. The results are in some way influenced by the use of data referring to the first adoption of IFRS. On one hand, during the transition and in the years immediately following the first adoption, a tendency to preserve the *status quo* has been emerging, because of the weak confidence of Italian preparers with respect to the new accounting principles. When IFRS allow alternatives accounting treatments,

³² With reference to the year of the transition, Cortesi *et al.* (2009) show a relevant increase of net income (+15,4% on average) due to the adoption of IFRS and, similarly, Cordazzo (2013) points out that Italian net income is on average 12.47% lower than IFRS reported net income.

companies often prefer the option closer to Italian GAAP requirements (Gavana *et al.*, 2013), so that data referring to year 2005 might not measure the real impact of applying IFRS as a tax base. On the other hand, if IFRS had been actually tax relevant in our reference year, it is likely that managers would exercise their discretion in order to lower the tax base. Finally, the study is focused during the first application of IFRS and, hence, it does not check whether the differences in the recognition and measurement criteria between Italian GAAP and IFRS found in the reference year persist over time. For these reasons, it would be interesting to investigate how our results would change after several years of IFRS application.

References

- Aisbitt, S. (2006), Assessing the effect of the transition to IFRS on equity: The case of the FTSE 100, *Accounting in Europe*, 3, 117-133.
- Callao, S., Jarne, J.I. and Laínez, J.A. (2007), Adoption of IFRS in Spain: Effect on the comparability and relevance of financial reporting, *Journal of International Accounting, Auditing and Taxation*, 16, 148-178.
- Cameran, M. (2010), La scelta operata dalle società italiane con riferimento ai principi contabili da utilizzare per la redazione del bilancio d'esercizio (IAS/IFRS versus standard nazionali): un'indagine empirica, *Rivista dei Dottori Commercialisti*, 61, 483-505.
- Cordazzo, M. (2013), The impact of IFRS on net income and equity: evidence from Italian listed companies, *Journal of Applied Accounting Research*, 14, pp.54-73.
- Cortesi, A., Montani, E. and Tettamanzi, P. (2009), IAS/IFRS adoption by Italian listed companies: first empirical evidences, *International Review of Business Research Papers*, 5, 388-398.
- Cristea, S.M. and Saccon, C. (2008), *Italy between applying national accounting standards and IAS/IFRS*, in AA.VV., Tome of the Romanian Accounting Profession's Congress, Bucharest, CECCAR, pp. 77-97.
- Delvaille, P., Ebberts, G. and Saccon, C. (2005), International Financial Reporting Convergence: Evidence from Three Continental European Countries, *Accounting in Europe*, 2, 137-164.
- Di Pietra, R. (2010), *Ragioneria Internazionale. Dall'armonizzazione contabile al bilancio IFRS*, Padova, CEDAM.
- Dunne, T., Fifield, S., Finningham, G., Fox, A., Hannah, G., Helliard, C., Power, D., and Veneziani, M. (2008), *The implementation of IFRS in the UK, Italy and Ireland*, Edinburgh, The Institute of Chartered Accountants of Scotland.
- Eberhartinger, E. and Klostermann, M. (2007), What if IFRS were a Tax Base? New Empirical Evidence from an Austrian Perspective, *Accounting in Europe*, 4, 141-168.
- ECCBSO (European Committee of Central Balance Sheet Data Offices) (2010), III Working Group on IFRS impact and CBSO databases. IFRS Impact, Document No. 1.
- European Commission (2010), *Use of options of the IAS Regulation by Member States*, Brussels, Commission Document.

- Freedman, J. (2004), Aligning Taxable Profits and Accounting Profits: Accounting Standards, Legislators and Judges, *EJournal of Tax Research*, 21, 71-79.
- Gammie, M., Giannini, S., Lemm, A., Oestreicher, A., Parascandolo, P., and Spengel, C. (2005), *Achieving a Common Consolidated Corporate Tax Base in the EU.*, Brussels, CEPS.
- Gavana, G., Guggiola, G. and Marenzi, A. (2013), Evolving Connections between Tax and Financial Reporting in Italy, *Accounting in Europe*, 10, 43-70.
- Haverals, J. (2007), IAS/IFRS in Belgium: Quantitative analysis if the impact on the tax burden of companies, *Journal of International Accounting, Auditing and Taxation*, 16, 69-89.
- Horton, J. and Serafeim, G. (2010), Market reaction to and valuation of IFRS reconciliation adjustments: First evidence from the UK, *Review of Accounting Studies*, 15, 725-751.
- Jacobs, O.H., Spengel, C., Stetter, T. and Wendt, C. (2005), EU Company Taxation in case of a Common Tax Base, *ZEW Discussion Paper*, No. 05-37.
- Lang, M., Obermair, C., Schich, J., Staringer, C. and Weninger, P. (2008), *Tax Compliance Costs for Companies in an Enlarged European Community*, The Netherlands, Kluwer Law International.
- Mastellone, P. (2011), Corporate Tax and International Accounting Standards: Recent Developments in Italy, *Tax Analysts*, Special Reports, January 17, 2011, 241-251.
- Mechelli, A. (2009), Accounting Harmonization and Compliance in Applying IASB Standards: An Empirical Survey about the First Time Adoption of IAS 7 by Italian Listed Groups, *Accounting in Europe*, 6, 231-269.
- Nobes, C. (2003), *A Conceptual Framework for the Taxable Income of Businesses, and How to Apply it under IFRS*, London, Certified Accountants Educational Trust.
- Nobes, C. (2008), Accounting Classification in the IFRS Era, *Australian Accounting Review*, 18, 191-197.
- Oestreicher, A. and Spengel, C. (2007), Tax Harmonisation in Europe. The Determination of Corporate Taxable Income in the EU Member States, *ZEW Discussion Paper*, No. 07-035.
- Provasoli, A., Mazzola, P. and Pozza, L. (2008), The role of national standards setters in the standards developing process: The Italian experience, in J.M. Godfrey and K. Chalmers (eds), *Globalisation of Accounting Standards*, Cheltenham, Edward Elgar Publishing.
- Rocchi, F. (1996), Accounting and Taxation in Italy, *European Accounting Review*, 5 (Suppl.), 981-989.
- Schön, W. (2004), International Accounting Standards – A «Starting Point» for a Common European Tax Base?, *European Taxation*, 10, 426-440.
- Spengel, C. (2003), International Accounting Standards, Tax Accounting and effective Levels of Company Tax Burdens in the European Union, *European Taxation*, 2, 253-266.
- Wilson, A. (2001), Financial Reporting and taxation: marriage is out of the question, *British Tax Review*, Current Notes, 86-91.
- Zambon, S. (2002), *Locating accounting in its national context: The case of Italy*, Milano, Franco Angeli.
- Zizzo, G. (2011), *La fiscalità delle società IAS/IFRS*, Milano, IPSOA.

