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Addressing the Debt Bias: A Comparison between the Belgian and the Italian ACE Systems

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ADDRESSING THE DEBT BIAS:

A COMPARISON BETWEEN THE BELGIAN AND THE ITALIAN ACE SYSTEMS

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(European Commission)

June 2014

Abstract: This paper reviews the experiences of Belgium and Italy with ACE-type systems of corporate taxation. The comparison focusses on the definition of the base for the computation of the allowance and the anti-avoidance framework to tackle abuses. It is argued that the Italian system, with its incremental feature and a comprehensive anti-avoidance framework targeting transactions between related parties, seems a more viable solution for an ACE reform aimed at addressing the debt bias in the corporate sector.

Key words: Allowance for Corporate Equity; Capital structure; Taxation; Italy; Belgium

JEL classifications: G32, H25

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Non-Technical Summary

Corporate income tax (CIT) systems generally allow for the deductibility of interest payments, while the return to equity is not considered as a deductible cost. This asymmetry favours debt over equity as a means of funding investments. This debt bias is a problem because it may generate several distortions. Most notably, it may lead to an excessive leverage in the corporate sector, with an excessively high level of bankruptcy costs and with a higher volatility of the business cycle. The debt bias may also fuel international tax avoidance. This can be achieved through increases of debt funding in high-tax jurisdictions and equity funding in low-tax ones, and by exploiting mismatches across countries in the tax law definitions of debt and equity, especially related to the so-called hybrid securities. The available empirical evidence supports the view that the asymmetric tax treatment of debt and equity affects companies' financial and profit shifting choices.

A promising tax system able to establish a symmetric tax treatment between debt and equity at the corporate level is the Allowance for Corporate Equity (ACE), also known as Notional Interest. ACE-type systems are currently in force in Belgium, Italy and, for SMEs, Portugal. The ACE reforms implemented in Belgium and Italy represent an interesting case study because they are quite different.

Belgium introduced an ACE-type corporate tax system in 2006. The Belgian ACE has been effective in reducing the gap in the tax treatment of debt and equity and has reduced the indebtedness of corporations. The strong growth of foreign direct investment in Belgium following the introduction of ACE indicates that the reform has been likely successful also in improving the attractiveness of Belgium for the multinationals. The above positive effects came however at a cost in terms of foregone budgetary revenues. Since the launch of the reform, the budgetary impact of the ACE has increased substantially passing from EUR 1.8 billion in 2006 to EUR 6.2 billion in 2011, even though the budgetary cost of the ACE is probably overestimated as other indirect effects of ACE on corporate tax revenues – through the debt-equity substitution effects and the consequent lower deduction of interest costs – and through the investment and economic expansion associated to an ACE reform are not taken into account. Moreover, the ACE was also introduced to replace the Coordination Centre regime, whose cost was estimated at EUR 2 Billion in 2005. As a reaction, Belgium has decreased the rate of the ACE and introduced an additional "Fairness" tax on some operations.

Anecdotal evidence suggests however that the cost of ACE may have actually been increased by tax planning activities. This is for two reasons linked to the original design of the notional interest chosen in Belgium. First, instead of applying the ACE on new capital, the ACE is granted to the entire stock of equity. This may have provided strong tax planning incentives to artificially restructure companies' activities to optimize the use of ACE, even with no changes in investment and/or external financing choices. Second, this may have been facilitated by an incomplete anti-avoidance framework specifically targeting transactions between related parties, such as intra-group loans, asset transfers, and equity contributions in kind. This would be consistent with empirical evidence according to which large companies have mostly benefited from the ACE; and aggregate investment seems not to have reacted to the decrease of the cost of capital induced by the ACE. The results of audits by tax authorities over the years have indeed confirmed the use of several ACE-related tax planning strategies. Although some of the most common tax avoidance schemes have been made more difficult over time by changes of the law provisions and especially by issuing administrative regulations, the ACE system in Belgium likely still remains prone to tax planning.

Italy introduced an ACE in 2011. The ACE base is defined as the net positive variation of equity compared to the situation at the end of 2010. Contrary to the Belgian system, the Italian ACE

is therefore *incremental*. Limits to the ACE base also stem from several specific anti-abuse provisions aimed at avoiding a cascading of ACE benefits within groups of companies subject to the same unitary control, or at preventing abuses through sales of assets in order to transform "old equity" into "new equity" that would attract the ACE allowance.

Next, although the Belgian and the Italian ACE anti-avoidance frameworks share a similarity - the role of the general anti-avoidance provision as a firewall of last resort for the cases of abuses not covered by specific rules, or not even conceived by the legislator – the specific anti-avoidance provisions of the Belgian ACE legislation that target specific abuses, such as the cascading of ACE benefits through participations or own share subscriptions, do not specifically target transactions between related parties. This leaves room for transactions aimed at optimizing the ACE benefit, as in the cases of intra-group loans, transfers of participations and creation of subsidiaries. In Italy, the anti-avoidance framework is instead built around transactions between related parties that can potentially trigger ACE abuses. The lack of reference to contributions in kind as a driver of the ACE base dynamic further strengthens the framework. Although the Italian ACE system is probably not fully immune to tax planning, the presence of several specific anti-avoidance provisions targeting within-group flows of funds, together with its incremental feature based on the cash contributions, makes it arguably more robust to tax avoidance.

Overall, from the comparison between the two regimes one can argue that the Italian system - with its incremental feature and a comprehensive anti-avoidance framework targeting transactions between related parties - seems a more viable option for an ACE reform aimed at addressing the debt bias in the corporate sector, while at the same time safeguarding the tax base at the domestic and international level.

1. Introduction

Corporate income tax (CIT) systems generally allow for the deductibility of interest payments, while the return to equity is not considered as a deductible expense. At the corporate level, this asymmetry favours debt over equity as a means of funding investments. From an economic point of view, this debt bias is considered a problem because it may generate several distortions. Most notably, it may lead to an excessive leverage in the corporate sector. This can be associated to an excessively high level of bankruptcy costs and - by making companies more fragile - to a higher volatility of the economic activity. The recent financial and economic crises have shown how harmful can be the consequences of an excessive leverage, in particular in the financial sector. The debt bias may also fuel international profit shifting. The different tax treatment of debt and equity creates incentives to shift profits away from high towards low tax jurisdictions by increasing debt funding in the former, and equity funding in the latter. These tax planning incentives are made worse by the mismatches across countries in the tax law definitions of debt and equity, especially related to the so-called hybrid securities. The available empirical evidence supports the view that the asymmetric tax treatment of debt and equity affects companies' financial and profit shifting choices.[2] The recent literature points to a possible role of the debt bias also for the banks' financial choices.[3]

Although in principle several tax systems are available to solve the debt bias problem, many of them are difficult to implement in practice.[4] The Comprehensive Business Income Tax (CBIT) disallows altogether the deductibility of interest costs, while cash flow taxes allow for immediate expensing of any financing cost. A promising tax system able to establish a symmetric tax treatment between debt and equity at the corporate level is the Allowance for Corporate Equity (ACE), not least because it has already passed the implementation test in several countries.

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2 For recent surveys of the empirical literature of the effects of debt bias on financial choices, see Feld *et al*. (2013) and de Mooij (2011). As for the effects of the asymmetric tax treatment of debt and equity on multinational choices, see for instance Huizinga *et al*. (2008).

3 See Keen and de Mooij (2012), Heckemeyer and de Mooij (2013), and Hemmelgarn and Teichmann (2013).

4 For a recent discussion of the debt bias problem and the alternative solutions, see Fatica et al. (2013). See also Auerbach *et al*. (2010) and Griffith *et al*. (2010). De Mooij and Devereux (2011) provide simulation evidence of the general equilibrium effects at the European level of the ACE and CBIT reforms.

The ACE is a source-based corporate tax system that addresses the debt bias by combining the deductibility of actual interest costs with a deduction of a notional return to equity. This system has many attractive features that it shares with cash flow taxation.[5] Notably, it makes the CIT neutral not only with respect to the financial choices, but – by exempting the normal return to capital and taxing economic rents only - also with respect to the marginal investment choices. In some versions, an ACE system also offsets distortions associated to misalignments between tax and accounting books, as in the case of accelerated depreciation.

While the ACE constitutes an important improvement from a standard corporate income tax system, it has also some potential drawbacks.[6] In terms of tax design, it does not fully address the distortions to choices such as profit shifting and location decisions,[7] albeit those would arguably require a much more radical – and therefore difficult – reconsideration of the international tax system. Another important drawback of the ACE – probably the most relevant for the viability of the system – is that it narrows the tax base, potentially generating a revenue shortfall. On the one hand, this argument does not seem decisive against the ACE, considering that the investment expansion associated to an ACE reform may lower even substantially its long-run budgetary cost.[8] On the other hand, if the revenue shortfall were recouped by increasing the CIT rate, the distortions to discrete choices mentioned above could be exacerbated. Because of this latter consideration, it is usually maintained that the ACE reform should be funded without increasing the CIT rate.

As mentioned above, the ACE has been already enacted in several countries.[9] In some cases - Croatia, Austria, and Italy at the beginning of the previous decade - it was repealed in the context of

[5] See Auerbach *et al.* (2010: 886-888).

[6] Some of the economic properties of the ACE have been challenged recently in more complicated models featuring agency costs and credit constraints (see Köthenbürger and Stimmelmayr, 2009, and Keuschnigg and Ribi, 2012).

[7] See Devereux (2012).

[8] See Griffith *et al*. (2010: 973-978) and de Mooij and Devereux (2011).

[9] For an overview of the real-world ACE systems, see Klemm (2007). For a more recent review, see Massimi and Petroni (2012).

other comprehensive reforms featuring notably a decrease of the statutory tax rate. At the moment, in the EU, an ACE-type system is in force in Belgium, Italy and Portugal.[10] [11]

This paper reviews and assesses the experiences of Italy and Belgium with the aim of drawing some tax policy lessons. These two systems can be indeed taken as opposite reference points. In Italy, the ACE - introduced in 2011 - is generally considered as a stable feature of the corporate and business income tax systems. It has been strengthened by the 2014 budget law with an increase of the allowance granted to investments funded by equity, even in the context of the current challenging fiscal consolidation effort. In contrast, the Belgian ACE - introduced in 2006 - has been subject since its entry into force to heated debates about its budgetary cost and the prominent role by multinationals in benefiting from the reform. The system has been watered down over the last years, and its survival is being discussed. The assessment of the Belgian and Italian experiences is focused on (a) the capacity of ACE reforms in these two countries to effectively induce a rebalancing of companies' financial structures, and (b) on the two related concerns about the actual viability of ACE-type systems: the shrinking corporate tax base with the consequent revenue losses and the tax avoidance opportunities that an ACE may generate.

The remainder of the paper is as follows. In section 2, the Belgium ACE is described and assessed. Special emphasis is given to the budgetary effects of the reform and the alleged role of tax planning in increasing its revenue costs. In section 3, we review and assess the Italian experience with ACE-type systems. The focus is on the incremental feature of the reforms implemented in Italy at the end of the 1990s and in 2011, and on the anti-avoidance framework in place to keep under control the

[10] In Portugal, a notional deduction of 5% is granted to SMEs for cash contributions on incorporation or for the equity capital increases. The allowance is permitted for four years and the tax benefit cannot be greater than EUR 200,000 over a three years period. Note that Portugal had a temporary ACE-type system for SMEs also from 2008 to 2013: a deduction was allowed for SMEs against the corporate income tax base equal to the product between the capital contributions in cash and a rate of 3%.

[11] An ACE-type system is also in force in Liechtenstein. The notional interest deduction is allowed on the stock of equity with a rate of 4% (2013). At the EU level Latvia applied an ACE-type from 2009 to 2013. It had the following features: the ACE base was the retained earnings of the previous tax year (which made it an incremental system); the notional rate was the weighted average of interest rates on loans in LVL to non-financial companies made during the current tax period, as computed by the Bank of Latvia.

potential revenue losses due to tax planning. Section 4 compares the two systems and draws some tax policy lessons. Section 5 concludes.

2. The Belgian experience

2.1 The introduction of the ACE in Belgium

Belgium has introduced an ACE-type corporate tax system in 2006 (*déduction pour capital à risque* or *intérêts notionnels*). The purposes of the reform were threefold: (i) reducing the tax discrimination between debt and equity; (ii) addressing the risk of firms' relocation in a context of tax competition; (iii) providing an attractive tax system for capital-intensive companies, multinationals' headquarters, and treasury centres.[12] The tax discrimination motive was important since the statutory corporate tax rate – the main driver of the difference in the tax treatment between debt and equity – is equal to 33.99%, a high level by international and European standards.[13] Even more importantly, the legislator perceived the need to preserve the attractiveness of Belgium for multinationals, given the dismantlement of the Coordination Centre regime that had been considered harmful under the European Code of conduct for business taxation, and challenged under the "State aid" examination procedure (see Box 1). Concomitantly with the ACE reform, registration duties on capital increases were abolished and several revenue raising measures were undertaken with the aim of compensating the budgetary costs of both the ACE and the repeal of registration duties.[14]

Under the ACE, a corporation is granted a deduction against the corporate income tax base that is equal to the product between the (adjusted) equity - the ACE base - and a given notional rate, the ACE rate. No investment in tangible or intangible assets is required to benefit from the allowance.

The Belgian ACE applies to resident companies and non-resident companies with a permanent establishment or holding immovable properties in Belgium. The regime does not apply to firms which already benefit from specific tax regimes, as for instance to investment companies and - for a period of

[12] See Gerard (2006) and Valenduc (2009).

[13] Over the period 1998-2002 the statutory tax rate was equal to 40.17%. As of 2003 it is equal to 33.99% (see ZEW, 2013: A1).

[14] Among those measures, the existing one-time tax credit (granted - with a cap - to firms increasing their equity) was abrogated. The other revenue-raising provisions included the repeal of the investment allowance (with the exception of the R&D and environmentally-friendly investments) and changes in the exemption provisions for capital gains on stocks, which were made more stringent.

three years - to Small- and Medium-sized Enterprises (SMEs) setting up a tax-exempt investment reserve out of retained profits.

Box 1. *The coordination centre regime*

The coordination centres (Belgium resident companies or branches of non-resident companies) were introduced in 1982 to improve the attractiveness of Belgium to foreign investors. They could carry out financial and administrative activities for the benefit of the members of multinational groups.

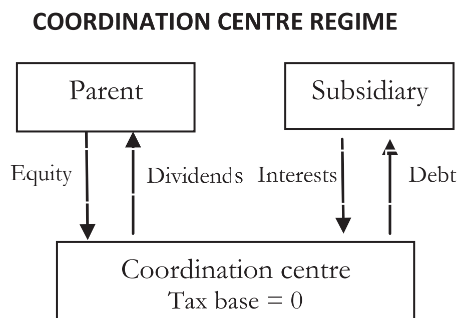
A coordination centre had to be part of a multinational group with consolidated capital of at least BEF 1 billion (about EUR 24.8 mio) and a turnover of at least BEF 10 billion (about EUR 248 mio). The definition of the group was all the companies in which common shareholdings were at least equal to 20%. For the group to be considered multinational, some conditions had to be fulfilled regarding the presence of the group's companies outside their country of origin. Coordination centres matching the criteria were approved by a royal decree and could benefit of a favourable tax treatment for a period of 10 years.

The coordination centres were liable to pay the corporate income tax at the standard rate. However, the tax base was determined as a percentage of certain expenses (so called cost-plus system). Notably, personnel and financial costs were not included. The mark-up was generally equal to 8%. Apart from corporate income tax, the coordination centres did not pay the capital registration duty of 0.5% and the estate tax on the immovable property owned by it. They were however subject to an annual tax equal to EUR 10 000 per full time employee up to a maximum of EUR 100 000.

In 1999, the European Union judged this regime as an instrument of harmful tax competition under the Code of conduct for business taxation (1); in 2003, the European Commission challenged it under the "State aid" examination procedure. Therefore, the regime was gradually withdrawn. As of 1 January 2011, it is no longer applicable.

The following figure shows the typical structure of a coordination centre.

COORDINATION CENTRE REGIME



Since the coordination centre's financial activity was virtually untaxed (i.e. corporate tax base = 0), the regime allowed transforming taxable interests at the level of the parent into exempt dividends. Indeed, the interest payments - deducted by the subsidiary already from the CIT base - were untaxed at the level of the coordination centre. They were then distributed as dividends to the parent that could benefit of the 95% exemption under the participation exemption regime. When the financial funds – flowing from the parent to the subsidiary via the coordination centre - were borrowed, there were basically two deductions against the income generated by the investment: one at the level of the parent and another at the level of the subsidiary. The result was a negative effective marginal tax rate, and therefore a tax subsidy to investments financed through these triangular structures (see Valenduc, 2009: 28).

(1) See EU Council, Representatives of the Governments of the Member States (1998), *Resolution of the Council and the Representatives of the Governments of the Member States, meeting within the Council of 1 December 1997 on a code of conduct for business taxation.* Official Journal of the European Communities, C 002, 06/01/1998; Primarolo Report (1999), *Report of the Code of Conduct Group (Business Taxation) to ECOFIN Council, 29 November 1999.*

2.2 The base and rate of the Belgian ACE

a. The base of the Belgian ACE.

The ACE base is computed by operating a series of adjustments to the accounting equity taken from the balance sheet of the tax year. According to Belgian accounting rules, "equity capital" (*fonds propres*) is composed of capital, share premiums, revaluation gains, reserves, carry-forward of profit and losses, and capital investment subsidies. For the purpose of computing the ACE, this "equity capital" is subject to some adjustments to arrive to the so-called "adjusted equity" (*fonds propres corrigés*).

In practice, some components are not considered (i.e. capital subsidies) and several additional deductions are undertaken with the aim to either ensure a coherent taxation of income generated abroad, or to avoid "cascading" effects and abuses. The former set of deduction refers to assets located abroad in countries with which Belgium has a Tax Treaty in force to avoid double taxation. Since the income generated by these foreign assets (i.e. the net worth of foreign permanent establishments – PEs - and foreign real estate) is exempt in Belgium, the ACE benefit was originally not granted altogether. In 2013, however, this provision was declared illegal by the ECJ because contrary to the freedom of establishment.[15] Consequently, the Belgian tax law has been amended to link more closely the ACE deduction to the profits of the foreign PEs and real estate. According to the new provisions, the ACE allowance related to the net worth of PEs or to immovable properties located in a European Economic Area (EEA) Treaty Partner Country will be granted, albeit only to the extent that it is larger than the profits attributable to these assets.[16]

[15] In the Argenta Spaarbank case (C-350/11) a Belgian financial institution did not exclude the net assets of its Dutch permanent establishment in computing the ACE. The ECJ ruling was retroactive and gave companies the possibility to claim back up to five years of the excess of paid corporate taxes. An infringement against Belgium was started in 2009 on a similar issue regarding the exclusion of foreign immovable property from the ACE base. For a discussion of the Argenta Spaarbank case, see O'Shea (2014).

[16] If the profits of the PE (or immovable property) located abroad are exempt under a Treaty, then the ACE for the related equity was previously not granted, by correcting the ACE base in the first place. Under the new rules, the equity of the PE (or immovable property) located abroad is first considered in the computation of the overall ACE allowance, but then there is a deduction against this overall amount. For PEs (or immovable property) located outside the European Economic Area (EEA), the deduction is equal to the ACE related to their equity. This means that in this case there are no changes with respect to the previous regime. Instead, for PEs or immovable properties located inside the European Economic Area (EEA), the deduction is equal to the minimum between the profits attributable to the PE (or to the immovable property) and the ACE

b. The rate of the Belgian ACE.

The ACE rate is based on the monthly reported indices of 10-years government bonds[17] with a series of specific rules (e.g. in each year the rate cannot exceed by more than 1 percentage point the rate applied in the previous year, and it could not be in any case larger than 3% (6.5% until 2011)). The rate is increased by 0.5% for SMEs.[18] For 2012, e.g., the ACE notional rate was equal to 3%; for 2013 it has been reduced to 2.742%.[19]

c. Additional aspects of the Belgian ACE.

Until 2012, the part of the deduction that remained unutilized could be carried forward for up to seven years. As for 2013, this carry-forward provision has been abolished, with grandfathering rules for the existing stock of unused deductions.

With effect from 2013, companies other than SMEs are liable to pay a new tax called the "Fairness Tax" or FaTa, the application of which is related to the ACE regime. The FaTa is indeed applicable when within a given year a large company distributes dividends while at the same time (part of) its taxable profits are reduced by the ACE and/or by carried-forward tax losses. If these conditions are satisfied, the fairness tax applies with a tax rate equal to 5.15% (5% + a 3% crisis contribution surtax). The FaTa tax base depends on several elements such as the amount of the distributed profits, the corporate tax base subject to the standard tax rate, and a composition ratio measuring the relative importance of ACE and tax loss carry-forward in reducing the taxable corporate profit of the period.[20] Taken together, the FaTa interacts with the ACE in three ways: first, the ACE is a trigger factor for the FaTa; second, soon or later the ACE allows distributing untaxed dividends that will directly feed the FaTa tax base; third, the ACE affects the composition factor that enters into the

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related to its equity. In other words, if the profits of the PE (or the immovable property) are lower than the ACE related to their equity, then the ACE is granted for the difference. That is the reason why if the PE (or the immovable property) records a loss, all the ACE related to its equity will be acknowledged.

[17] As for 2013, the reference is to the average of monthly reported indices of linear obligations (OLOs) in the month of July, August and September of the previous year. Until 2012, the reference was to the average over the whole previous year.

[18] According to the Belgian law, an enterprise is considered SME if it meets some criteria defined by the law in terms of total assets, total revenues and number of full time (equivalent) workers.

[19] The ACE rate was equal to 3.442%, 3.781%, 4.307%, 4.473%, 3.80%, and 3.425% respectively in 2006, 2007, 2008, 2009, 2010, and 2011.

[20] Only for the first year of application, the tax will also depend on the dividends distributed out of earnings retained until 2013, deemed to stem from formerly built taxed reserves.

calculation of the FaTa tax base. In summary, the "ACE-plus-FaTa" regime resembles somehow the systems that are referred to as partial ACE schemes in the economic literature, and precisely those ACE regimes whereby a part of the profits is taxed at the ordinary rate, while the notional return to equity is taxed at a lower rate.[21] This result is however achieved in a rather indirect way through the interaction with the FaTa.

Let us turn now to the provisions of the Belgian ACE aimed at avoiding "cascading" effects and abuses in the use of the allowance.

2.3. The anti-avoidance framework

The anti-avoidance framework of the Belgian ACE is rather heterogeneous. It primarily includes the specific anti-avoidance rules of the ACE legislation. It also comprises regulations issued in 2008 and 2011 on specific cases of ACE abuses, and the (specific and general) anti-abuse rules of the Belgian tax law that can be applied to the ACE.[22]

a. Specific anti-avoidance provisions of the ACE legislation

The specific anti-abuse rules of the ACE legislation can be classified into two groups.

The first group concerns own shares and other participations. With regard to own shares, the deduction of their value from the ACE base is needed to prevent abuses: a company increasing equity (by issuing new shares) and simultaneously subscribing it would indeed artificially boost its capital for the purpose of increasing the ACE base. This equity increase would not qualify for the ACE base. As regards other participations, deductions from the ACE base are undertaken for the shares in other companies that qualify for the participation exemption[23] and for those qualifying as fixed financial

[21] See Klemm (2007).

[22] See the circular No. Ci.RH.840/592.613 (AFER no. 14/2008) and its two addendum released on 02.06.2008 and on 20.06.2011.

[23] Under the participation exemption regime, an amount equal to 95% of dividends is exempted from the taxable income to avoid an economic double taxation. For this regime to apply under the Belgian tax law several conditions have to be fulfilled. Among others, the participation has to be at least 10% of the subsidiary capital or at least equal to EUR 2.5 mio. Until 2010, for the participation exemption regime to apply, another condition was that the shares had to be recorded into the balance sheet as fixed financial assets.

assets.[24] The correction related to the participation exemption aims at avoiding granting a double tax benefit for the same financial flow and at tackling the possibility of a cascading of ACE benefits through a chain of equity injections out of the same initial equity funds. The deduction for fixed financial assets can be interpreted as an additional firewall against the cascading of ACE benefits for the cases where these shares do not qualify for the participation exemption. Note that the correction for the participations qualifying for the participation exemption and as fixed financial assets makes in fact the ACE immaterial for resident holding companies, since for them the correction very likely will reduce the ACE base to zero.

The second group of adjustments is more directly targeted at avoiding abuses. Assets whose costs exceeds business needs (e.g. luxury cars), those not generating periodic taxable income (e.g. jewellery, artworks, precious metals) and real estate used by company directors, their spouses or their children have to be deducted from the accounting equity for the purpose of the ACE, since they would boost artificially the ACE base.

b. Specific cases of ACE abuses targeted by the tax authorities

The anti-avoidance framework also includes some specific cases of ACE abuses targeted by the tax authorities. In other words, after some years since the launch of the reform the tax authorities clarified that they could challenge *ex-post* specific types of transactions if some conditions are not satisfied. Until now, two kinds of transactions have been put under the spotlights. The first type includes bilateral circular intra-group loans whereby a parent capitalizes a financing conduit subsidiary that in turn immediately grants a loan to the parent. In this case, the transaction generates deductible interest payments at the level of the parent, while at the same time providing an additional ACE allowance for the subsidiary. Moreover, the dividend paid to the parent benefits from the (95%) participation exemption.[25] Note that this is the only specific case of intra-group loans that has been

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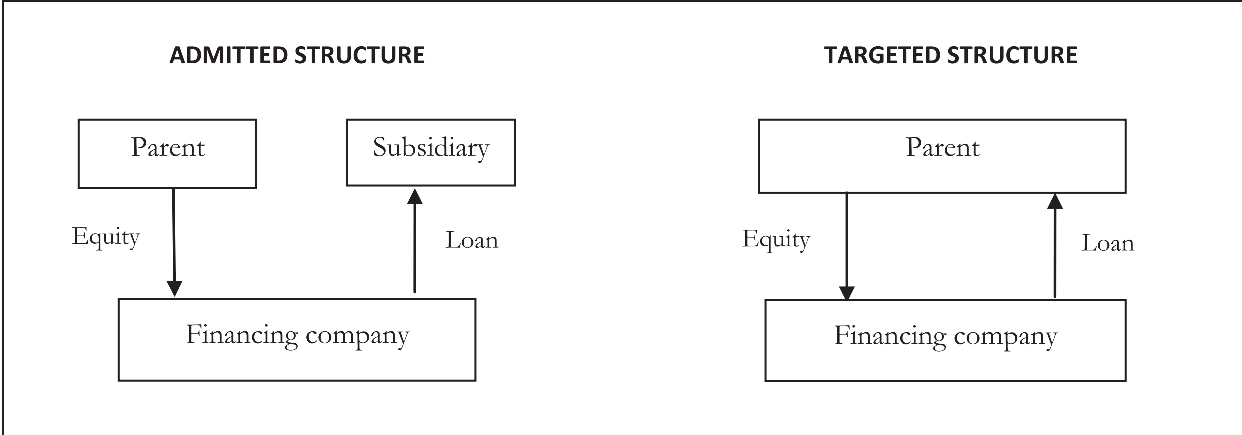
[24] The correction for the participations qualifying for the participation exemption has been introduced recently (as for 2013). This implies that the ACE related to such participations is not granted even if these participations are held as a mere investment. The new provision can be related also to the change as for 2011 of the conditions for the participation exemption regime to apply.

[25] Among others things, the anti-abuse legislation may be more likely applied when the transaction involves a limited number of companies.

formally targeted by tax inspectors. Intra-group loans involving genuine financing companies providing financial services to several companies within the group are instead explicitly admitted by the tax authorities (see figure 1).

The second kind of transaction explicitly targeted by the tax authorities is the conversion of shares with latent capital gains into a loan, through a transaction between related parties where the acquirer has not sufficient means to fund the acquisition or to repay the intra-group loan. Thanks to this transaction, a non-deductible item (the participation excluded from the ACE base) is converted into a qualifying asset (the loan), the tax exempt realized capital gain further increases the ACE base, and the interest deductibility at the level of the acquiring company reduces its taxable base (a case of double dipping). Note that normal restructuring transactions - aimed for instance at segregating groups' holding from operational activities - are not targeted.

Figure 1. Intra-group loans in the Belgian ACE and the anti-avoidance framework



c. Specific and general anti-avoidance rules of the tax law that also apply to the ACE

Limits to the ACE can derive from specific anti-abuse rules of the Belgian tax law that the tax authorities consider applicable also to the ACE. Among these anti-avoidance provisions, one targets the deductibility of interest costs, which it is in general possible only if these costs are incurred to generate or retain taxable income[26]. This provision of the Belgian law - extended to the ACE – implies that double dip structures where interest deductions are claimed in Belgium on loans taken out to

[26] See article 49 of the 1992 Income Tax Code.

subscribe an equity increase can be challenged when the related transaction is not consistent with the company's statutory goals, or when it does not generate a positive pre-tax income (namely when the interest deduction exceeds the income of the ACE company).[27]

Finally, the general anti-avoidance rule can be also applied to the ACE. One basic principle - based on the jurisprudence - is that in Belgium taxpayers have the right to perform transactions to minimize their tax liability (*recherche de la voie légale la moins imposée*) even if these transactions are carried out in an unusual manner. This principle was recalled in the 2008 circular issued by the Belgian authorities dealing with the anti-avoidance provisions of the ACE. Over time, however, the above principle has been somehow weakened. A general anti-avoidance rule was introduced in the Belgium tax system in 1993. According to this rule, the tax authorities could re-characterize for tax purposes any transaction or series of transactions carried out by a taxpayer if it is possible to establish (by presumption or proof) that the target was indeed tax avoidance and if the new characterization entails similar law consequences as the original one. The taxpayer can however challenge the tax authorities' presumption of tax avoidance by establishing that the transaction was based on legitimate or economic needs. In 2012 the general anti-avoidance rule was modified and it is now based on the abuse of law concept. An abuse of law is deemed to occur when the taxpayer gets an advantage out of the application or the non-application of a tax provision that is not compatible with the objectives of the tax provision or contrary to its legislative intent. If the tax authorities challenge a transaction identifying an abuse of law, to avoid a re-characterization of the transaction the taxpayer must prove that it was carried out to pursue other objectives than tax avoidance.

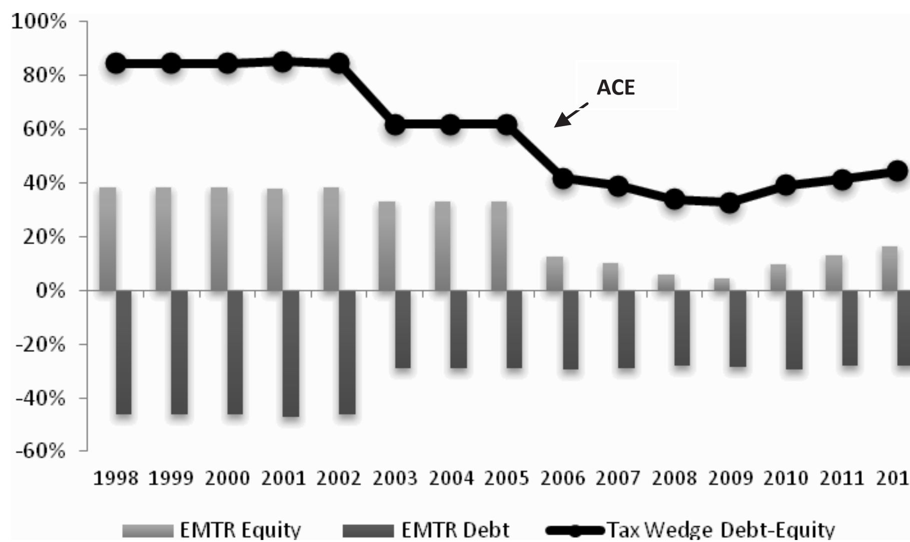
[27] See the circular No. Ci.RH.840/592.613, page 6. Other specific anti-avoidance provisions that can be also applied to the ACE target: the use of deductions (and by extension also of the ACE) to reduce the taxation of profits stemming from an abnormal or gratuitous advantage; the trade of companies with tax losses carried forward from the past, that can be extended to companies with unused ACE deductions. Since as for 2013 the new unutilized ACE allowances will be lost, over time the latter provision will become immaterial for the ACE.

2.4 Assessment

2.4.1 Debt bias and capital inflows

Overall, the Belgian ACE seems to have been effective in reducing the gap in the tax treatment of debt and equity - promoting more balanced financial structures - and in boosting capital inflows. Figure 2 illustrates the debt bias in Belgium over the period 1998-2012, showing the effective marginal tax rates (EMTR) on a new investment financed by new equity and by debt, respectively.[28] One can notice the decrease of the EMTR for equity-financed investments as from 2006 due to the introduction of the ACE. By 2009, thanks to the take-off of the reform and its strengthening with the increase of the notional ACE rate, the debt bias had halved with respect to 2005. Nevertheless, in spite of the ACE, Belgium showed a debt bias in 2012 that is just above the EU27 average.[29] This is due to a combination of different factors, notably the fact that there remains a gap between the notional ACE rate and the market interest rate.

Figure 2. EMTR in % on debt- and equity-financed new corporate investment, 1998-2012



Source: ZEW (2013)

[28] The reader is referred to the 2013 ZEW report for more information about the tax parameters used for the computation of the EMTR, and to the 2008 ZEW report for a short description of the model at the basis of the figures (ZEW, 2008, 2013). A more comprehensive analysis of the modelling assumptions is Devereux and Griffith (1999). For more specific analyses of the impact of the Belgium ACE on the cost of capital of alternative funding sources, see Eyckmans *et al*. (2006) and Gerard (2006).

[29] See European Commission (2013b: 62). In addition, the relatively high statutory corporate tax rate (the third highest, after France's and Malta's) exacerbates the differences between the EMTRs for debt and equity-financing.

As for 2013, with the introduction of the fairness tax – FaTa – the notional return to equity will not be exempt anymore and will be taxed at a rate as high as 5.15%. In terms of the well-known Devereux-Griffith framework[30], the FaTa implies an increase of the EMTR and an upward shift of the EATR curve, larger for rates of return that are closer to the EMTR and negligible for the rates of return on the investment that tend to infinity. Although in general FaTa's final effects are likely to be small[31], the tax may in some circumstances generate counterintuitive results. Indeed, depending on the profits and losses account - since other types of exempt incomes are affected by FaTa - there could even be the possibility that in some tax years a company may waive the ACE if the benefit stemming from the deduction is lower than the additional tax cost created by the application of the FaTa.[32]

The reduction of the debt bias due to the ACE reform seems to have promoted more balanced financial structures. Princen (2012) provides econometric evidence of an ACE impact on the leverage of Belgian companies by between 2 and 7%. Results along the same lines can be found in Panier *et al*. (2013). The econometric evidence about the impact of the ACE on SMEs' financial structures appears more inconclusive.[33] This can be probably explained by the concomitant repeal of the one-time tax credit for new equity and by the fact that the investment reserve regime available to SMEs makes the ACE less attractive for such firms.

As regards capital inflows, there was a strong growth of foreign direct investment in Belgium following the introduction of ACE. The reform seems then to have been successful also in improving the attractiveness of Belgium. The development was mostly due to equity injections by non-resident companies into Belgian entities that were acting as financing companies for their groups. These financing companies played often the role that was previously played by the coordination centres.

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30 See Devereux and Griffith (1999).

31 For 2014, the projected revenue impact is EUR 165 million (see Project de plan budgétaire, Oct. 2013, 17-18 (http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/ dbp/be_2013-10-15_dbp_fr.pdf).

32 The choice of waiving the ACE is of discrete type and it will therefore be based on the comparison between EATRs in the two scenarios when the company would or would not claim the ACE.

33 While Van Campenhout and Van Caneghem (2012) do not find any significative effect (as Panier *et al*., 2013), Kestens *et al*. (2012) - relying on a much larger dataset - find instead that the ACE did result in a significant change of SMEs' leverage.

However, an important part of new equity was also due to new financing companies created when the ACE was introduced.[34]

Overall, the ACE effect on companies' financial structures may have played a timely positive role by increasing the resilience of the Belgian companies to the financial crisis. These positive effects came however at a cost in terms of foregone corporate tax revenues.

2.4.2 Budgetary impact of the reform

When the reform has been introduced, the Government had estimated a direct revenue loss of about EUR 0.5 billion, corresponding approximately to 4.4% of the potential corporate tax revenues in 2006.[35] In 2008, the Belgian Central Bank had already estimated a gross corporate revenue loss for tax year 2006 equal to approximately EUR 2.4 billion (17.2% of the potential CIT revenues in 2006)[36]. Since then, yearly reports to the parliament on tax expenditures have exposed an increasing budgetary cost of the ACE, much higher than the initial government's and National Central Bank's estimates.

Figure 3 presents the revenue losses due to the ACE over the period 2006-2011, in terms of CIT revenues. As the figure shows, the budgetary impact of the ACE increased substantially over the first four years. Since 2009, the ACE revenue losses represent more than 50% of the overall actual CIT revenues (more than 1/3 of the potential CIT revenues). Their order of magnitude has become similar to that of the PEX regime for dividends.[37] Over the more recent period 2009-2011, in spite of an increase in absolute terms (from EUR 5.5 to 6.2 billion), the ACE revenue loss appears stable in relative terms.

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[34] See Banque Nationale de Belgique (2008: 16-22).

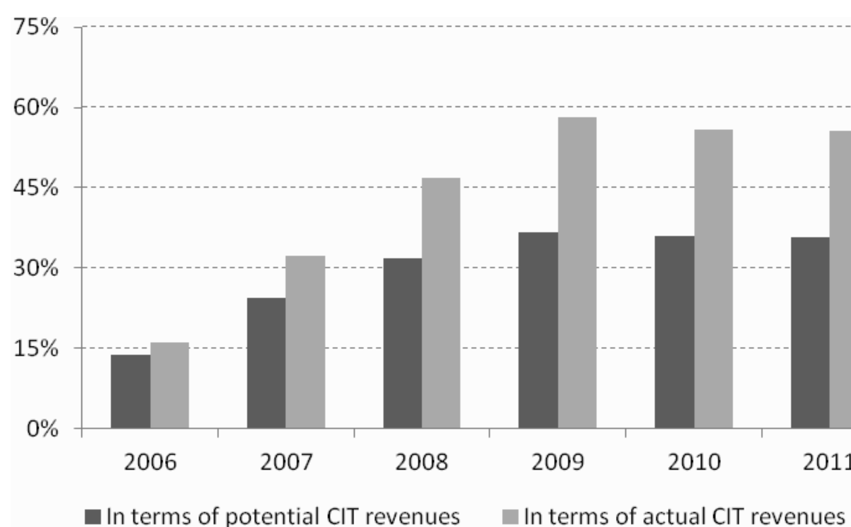
[35] The potential corporate tax revenues are equal to the sum of the effective tax revenues and the revenue loss associated to the ACE (i.e. the sum that would theoretically be collected without the ACE, albeit not taking into account dynamic effects). This information can be directly compared with the results of *ex-ante* estimates of the revenue losses associated to the ACE based on balance sheet data. The initial government estimate is much lower than the OECD's that had evaluated at about 10% the static *ex-ante* budgetary cost of the ACE reform in Belgium, through a micro-simulation model based on tax return and balance sheet data (OECD, 2007: 131-133). Also a more recent estimate - based on balance sheet data for 2005-2007 - points to a significantly larger revenue loss equal to 16.7% of corporate tax revenues (de Mooij, 2011).

[36] See Banque Nationale de Belgique (2008: 42-47).

[37] The PEX regime (Participation Exemption) for dividends represents the largest source of revenue losses in the Belgian corporate tax system. These revenue losses were equal to EUR 6.8, 6.0 and 8.7 bn in 2009, 2010 and 2011 respectively. Notice that the PEX regime is considered – as the ACE – a structural feature of the system rather than a tax expenditure (*dépense fiscale*).

The direct revenue impact of the ACE on CIT revenues is nevertheless only part of the story. In fact, one should consider not only the direct, but also the indirect effects of ACE on corporate tax revenues and on the revenues from other taxes. This requires bringing into the picture the companies' behavioural responses and the dynamic effects on the economy. Indeed, if the ACE is effective in putting debt and equity on the same ground, then one should expect a change in the firms' financial choices: *ceteris paribus*, ACE deductions will replace a part of the interest deductions. This means that - for this part - the gross revenue cost will overestimate the impact of the ACE reform. Simple back-of-the-envelope calculations, based on the econometric evidence quoted above, suggest that the gross revenue cost should be corrected by at least 5-15%.[38]

Figure 3. The ACE revenue losses in terms of corporate tax revenues (%), 2006-2011



Source: our elaborations on data provided in Chambre des représentants de Belgique, *Inventaire des exonérations, abattements et réductions qui influencent les recettes de l'État* (2010: 1943/002; 2011: 2521/002; 2012: 3070/002). Corporate tax revenues in terms of GDP are taken from the 2013 edition of the report "Taxation trends in the European Union". GDP figures are taken from EUROSTAT.
Notes: Potential CIT revenues are equal to the sum of the actual CIT revenues and the revenue losses due to the ACE.

[38] Let us assume an initial leverage ratio (debt/assets) equal to 60% (based on the descriptive statistics provided in Princen, 2012), an average reduction of leverage by between 2 and 7 percentage-points (based on Princen's estimates, that is a new average leverage ratio between 53% and 58%) and an interest rate on debt equal to the ACE notional rate (defined as *i*). Given the above assumptions, the theoretical revenue losses associated with the ACE would be equal to either *i*42*tau* or *i*47*tau*, where *tau* is the corporate income tax rate and 42 and 47% are the share of equity in total assets; the reduction in deductions associated with reduced interest costs on debt will be equal to either *i*2*tau* or *i*7*tau*, that represents respectively about 5 and 15% of the ACE revenue losses.

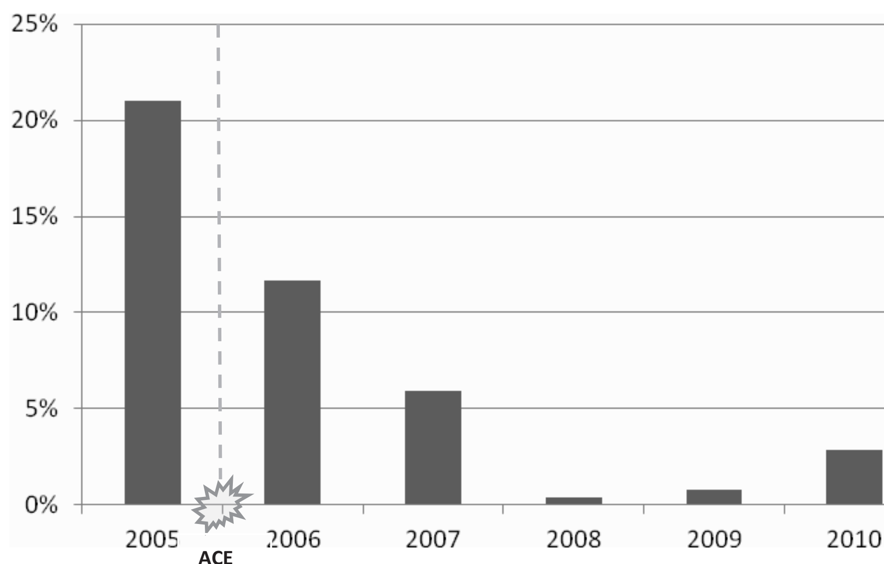
With regard to the dynamic effects, if the ACE stimulates capital inflow and productive investment, the gross cost of the reform will tend to increase, but the net final effect on public revenues could be much lower given the offsetting effects of investment expansion and capital inflows on both CIT revenues themselves and other tax bases. These offsetting effects may be particularly relevant if they are associated to very profitable investments.

In addition to the general points just raised, there are some specific elements to be considered in the evaluation of the net revenue consequences of the ACE reform. First, several offsetting measures were undertaken to raise corporate tax revenues and therefore to fund at least partially the reform.[39] Second and most important, the ACE was also introduced to replace the Coordination Centre Regime (henceforth, CCR). In the budgetary assessment of the ACE reform, one may argue that the budgetary cost of the CCR should be isolated in the budgetary assessment of the reform because at the end of the day for this part a deduction (the ACE) is replacing an exemption (the CCR). Moreover, since the ACE is less favourable than the CCR (see below), there could have been even a positive budgetary impact from the transformation of coordination centres into financing companies subject to the ACE regime.

Figure 4 presents some information about the revenue losses associated with the CCR since 2005, the year preceding the inception of the ACE regime. In 2005, the revenue losses amounted to about EUR 2 billion, corresponding to about 1/5 of the actual CIT revenues. The fall of the budgetary cost over time is obviously due to the regime's phasing out and it can be to some extent seen together with the increasing cost of the ACE regime visible in figure Y. Taking into account a series of offsetting factors, the National Central Bank indeed estimated that the net revenue impact of the ACE in 2006 could be brought down substantially from EUR 2.4 billion to between EUR 0.14 and 0.43 billion (corresponding to between 6 and 18% of the gross cost, or between 1.2 and 3.7% of actual CIT revenues).

[39] In the Belgian National Central Bank's 2008 analysis, the offsetting measures were worth about EUR 0.7 billion, corresponding to about 1/3 of the estimated gross revenue loss in 2006 (See Banque Nationale de Belgique, 2008, table 10).

Figure 4. Coordination centre regime: revenue losses in terms of actual CIT revenues, 2005-2010



Source: Chambre des représentants de Belgique, *Inventaire des exonérations, abattements et réductions qui influencent les recettes de l'État* (2010: 1943/002; 2011: 2521/002; 2012: 3070/002). Corporate tax revenues in terms of GDP are taken from the 2013 edition of the report "Taxation trends in the European Union". GDP figures are taken from EUROSTAT.

2.4.3 The alleged role of tax planning

While the gross revenue cost of the ACE reform should not be taken at face value, anecdotal evidence suggests that it may have been swollen by tax planning activities.[40] The direct CIT revenue cost of the ACE may have been increased by the way the ACE system has been implemented in Belgium. Granting the deduction only to the new equity cumulated starting from a certain point in time – as opposed to the equity stock – could have reduced the budgetary impact of the reform in the short run. It was however probably seen as incompatible with the aim of replacing the coordination centre regime. The reference to the entire stock of equity has provided strong tax planning incentives to artificially restructure companies' activities to optimize the use of ACE, even with no changes in investment and/or external financing choices.[41] This has been facilitated by the lack of an anti-

[40] Since the launch of the reform, ACE related tax planning by multinationals has been discussed in the media. See, for instance, http://help.tijd.be/?op=detail&articleId=8942692&nodeId=3154 or http://www.rtbf.be/info/belgique/detail_interets-notionnels-arcelormittal-le-cas-de-trop-chat-a-12h?id= 791 6153.

[41] See the discussion in Valenduc (2009: 41-50). The role of ACE as a tax planning tool in Belgium is highlighted for instance in Wijkamp (2007) and Eicke (2009). For a discussion on how to optimize the tax benefits out of the Belgian ACE, see Colmant *et al*. (2006). See also Vanhaute (2008: 351-354).

avoidance framework targeting specifically transactions between related parties, notably: (i) intra-group loans; (ii) asset transfers; and (iii) equity contributions in kind.

For the ACE to mimic the CCR, apart from the reference to the stock of equity, another crucial condition is the absence of specific anti-avoidance provisions for intra-group loans (see Box 2). The lack of such provisions has generated incentives to set up double-dipping structures, whereby interest costs are claimed for loans financing the equity injections that trigger the ACE deduction. In the cases of structures involving Treasury Centres and Financing Conduit Entities, it has been even possible for the companies injecting the equity to be granted a loan by the same company receiving the equity contributions. This scenario is consistent with the spectacular flow of equity capital into Belgian companies following the ACE introduction that was redirect abroad as loans granted to other group's companies.[42] Note that in principle double-dipping structures combining interest deductibility and ACE allowance are possible not only within multinational groups, but also at the domestic level. Indeed, while there is a specific anti-avoidance rule providing that the ACE base of the domestic parent will be decreased by the ACE base created at the level of the financing company, the rule is only relevant when the parent has a positive ACE base. Instead, when the parent is a domestic company performing (also) holding activities, it is possible that its ACE base is already reduced to zero given the correction for the participations in other companies. In such case, all additional equity injected into the financing company will generate additional ACE base for the latter company without decreasing the ACE base of the parent (i.e. the ACE base cannot be negative). If the tax base of the parent is initially positive enough (more likely in the case of a mixed holding), taking up a loan to fund the equity contribution will generate an additional tax saving through the deduction of interest costs.

The absence of specific anti-avoidance rules targeting intra-group loans may also have triggered a cascading of ACE benefits. In this respect, note that the correction of the ACE base for the participations qualifying for the PEX and as fixed financial assets only tackles the possibility of ACE cascading through chains of equity injections alone. In principle, ACE cascading is also possible

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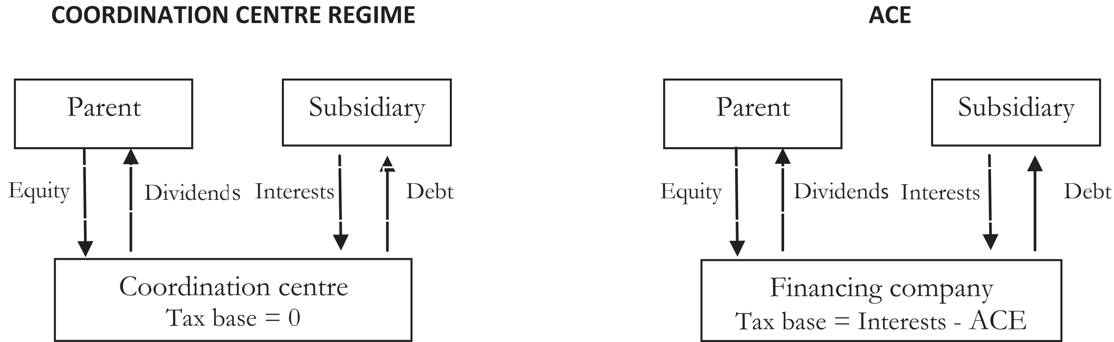
[42] See Banque Nationale de Belgique (2008: 16-24) for figures regarding capital flows following the introduction of the ACE.

through chains combining equity injections and intra-group loans. Figure 5 shows two possible structures - one international and one domestic - that would allow doubling the ACE allowance associated to an initial genuine equity increase[43]. In both cases, the trick is channelling through intra-group loans the funds that have already benefited from the ACE to a group's company in an "ACE indifference" status - foreign company or domestic company with a zero ACE base and an initial positive tax base[44] - that then injects equity into another domestic group's company. In the international example, the case when the foreign company injecting the equity (B1) is not the same as the one taking on the intra-group loan (A1) would be more opaque, and arguably it would be more difficult to be detected by the tax authorities and challenged *ex-post* under the general anti-avoidance rule. The same holds true if the foreign company injecting the equity (B1) does not target the domestic company whose ACE base increased in the first place (S1), but rather another domestic company belonging to the same group (S2).

Box 2. *The ACE and the coordination centre regime*

Some of the tax planning incentives of the Belgian ACE are a direct consequence of the way the ACE has been implemented to allow it to mimic the coordination centre regime (although less effectively). The figure below compares the two tax regimes.



With the ACE, thanks to a triangular structure, interest income of the financing company (that would be fully taxed at CIT if directly paid to the parent) is transformed into (95% exempted) dividends. While in the coordination centre regime this was achieved by exempting the financial activity of the coordination centre, with the ACE this can be achieved by reducing the tax base of the conduit financing company thanks to the ACE deduction.

In a domestic context, generally the ACE base would be reduced by the amount of the participations qualifying for the participation exemption or as fixed financial assets. In other words, the reduction of tax base at the level of the domestic financing company thanks to the ACE related to the equity injected by the domestic parent

[43] In the example, it is assumed that the limits to the deductibility of interest costs at the domestic and international level are not binding.

[44] The initial positive tax base has to be large enough to allow the deductibility of the additional interest costs.

would be offset by an increase of tax base at the level of the domestic parent, due to the correction of the ACE base associated to the participation into the conduit financing company. In other words, the ACE base of the parent is decreased by the ACE base created in the domestic financing company.

This is not however the case when the parent is a foreign company. To fix ideas, imagine that the foreign parent company provides 1,000 of equity to the Belgian financing company, which in turn provides a loan of the same amount to a foreign or domestic subsidiary. Assume for illustrative purposes that the interest rate is 5% and the rate of the ACE is 3%. If the domestic subsidiary has an Earnings Before Interest and Taxes (EBIT) of 100, then after deduction of its interest payment to the financing company of 50, its taxable profit is 50 (i.e. 100-50), which leads to a tax liability of 16.995 at the statutory tax rate of 33.99% applicable in Belgium. The net profit of 33.005 (i.e. 50-19.995) is paid to the foreign parent company in the form of a dividend where it often benefits from a participation exemption (often at 100%). The tax base of the financing company is made of the interest received (50), minus the ACE (30), that is 20. This means a tax liability in Belgium of 6.798. The after-tax profit is then paid to the parent company as dividend, where it also benefits from the participation exemption. For the group, the total tax liability is 16.995 + 6.798 = 23.793. The same example without the ACE would lead to a tax liability of 33.99 (16.995 + 16.995), that is the statutory Belgian tax rate. Note that the same analysis applies if the company injecting equity is a domestic holding company that already has an ACE base reduced to zero because of the corrections for the participations.

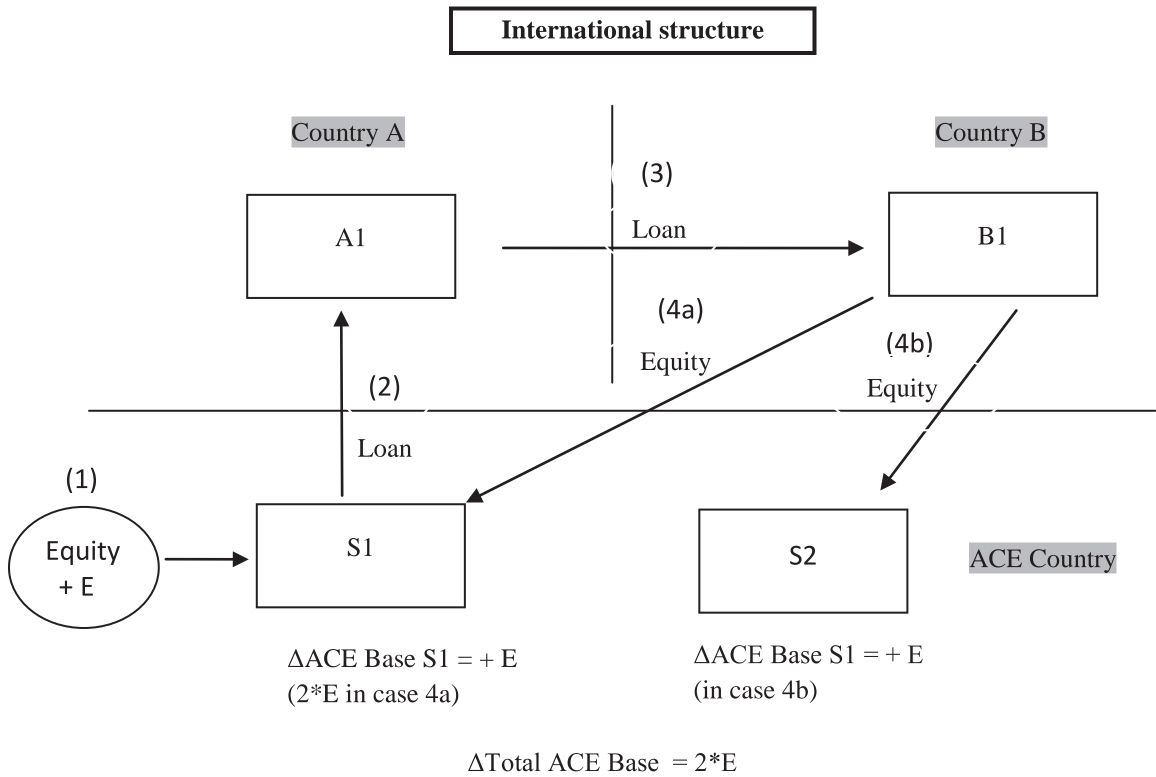
If on top the foreign parent (or the domestic mixed holding with a zero ACE base and an initial positive tax base) takes out a bank loan to fund the equity injection into the Belgian financing company, it may be entitled to deduct interest costs against its own corporate tax base, and therefore the consolidated tax liability will be even lower (by how much will depend on the statutory tax rate of the country where the parent is located). This is a typical case of double dipping. A more aggressive scheme is the one where companies injecting equity fund the transaction through loans granted by the same companies whose capital they are subscribing. This type of scheme can be challenged *ex-post* by tax authorities under some circumstances (see par. 2.3).

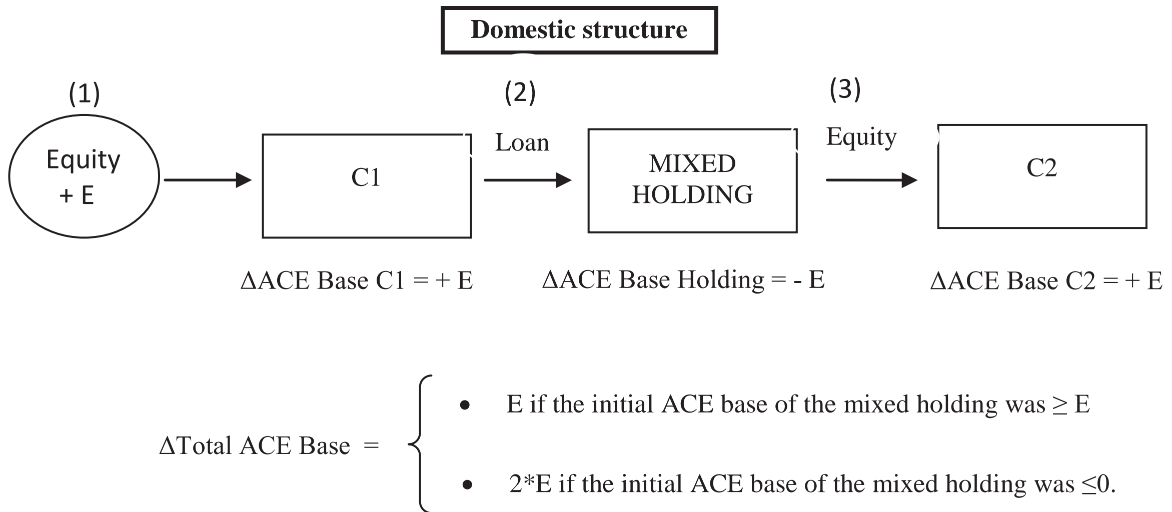
The possibility for related companies to undertake easily transactions between them has made possible to increase artificially the ACE base in a variety of ways. An often reported technique used to optimize the use of ACE – based again on the specific status of foreign companies or domestic holding with a zero ACE base – has been restructuring the participations held within the group: since these have to be deducted from the ACE base, the ACE benefits have been maximized placing them into the companies for which the ACE was either of little interest - such for instance a domestic holding - or of no interest, such for instance a foreign group company.[45]

[45] See for instance Quaghebeur (2007) and Peeters and Hermie (2011: 15).

Figure 5

Cascading of ACE benefits through intra-group loans: international and domestic structures



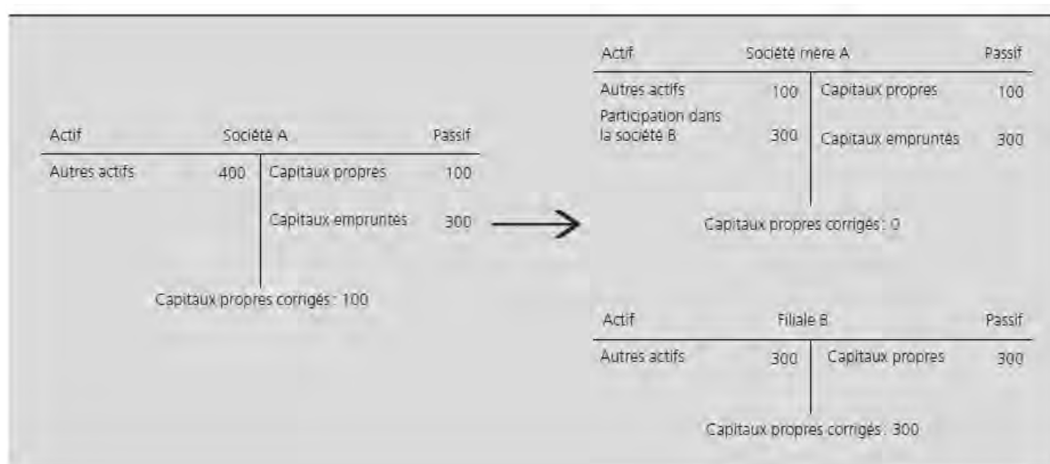


ΔTotal ACE Base =

- E if the initial ACE base of the mixed holding was ≥ E
- 2*E if the initial ACE base of the mixed holding was ≤0.

Another way to optimize the use of the ACE has been creating subsidiaries through equity contributions in kind.[46] The following example is taken from the 2008 National Central Bank's publication (see figure 6). It shows how the company A - with a total value of assets worth 400 and an initial equity and ACE base equal to 100 - could triple the ACE base by creating an all-equity subsidiary B, and subscribing its equity capital through an asset contribution worth 300. Further tax benefits are possible by allocating appropriately profits between the two entities in order to exploit to a maximum extent the deductions of interest and ACE at the level of the parent and the subsidiary, respectively.[47]

Figure 6. Optimize the use of ACE by creating a subsidiary



Source: Banque Nationale de Belgique (2008: 14)

Some of the described tax planning schemes – some types of double dipping structures and transfers of participations – have been made more difficult over time by issuing administrative regulations (see par. 2.3).[48] However, this kind of solution is arguably less effective than specific anti-avoidance law provisions. Moreover, double dipping seems to remain an open issue for the Belgian ACE.[49]

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[46] See Banque Nationale de Belgique (2008: 14).

[47] See also Mignolet (2010: 87).

[48] Note also the new stricter provisions as for 2013 for the definition of the ACE base that have made more difficult the ACE cascading through chains of equity injections.

[49] See Chambre des Représentants de Belgique (2013), Project de Loi-Programme, 21 June, p. 8 (http://www.lachambre.be/doc/_flwb/pdf/53/2853/53k2853014.pdf#search="2853/014).

The results of audits by tax authorities over the years have confirmed the use of ACE-related tax planning strategies.[50] It is difficult to disentangle the genuine revenue losses associated with the ACE given the shrinking corporate tax base from the revenue losses due to tax planning. However, it is not inconsistent with tax planning considerations having played a role in the ACE direct revenue loss the empirical evidence according to which: (a) large companies have mostly benefited from the ACE, since this class of companies are arguably more active in using tax optimization techniques; (b) subsidiaries seem to have responded more strongly to the introduction of the ACE[51]; and (c) the aggregate investment seems not to have reacted to the decrease of the cost of capital induced by the ACE.[52]

2.4.4 The way forward

The revenue losses associated with the ACE, the evidence of a limited impact on investment and employment, and the important role played by large companies/multinationals in using the deduction have since the beginning spurred a heated debate about this reform. This is at the basis of an increasing scrutiny by the tax authorities of ACE-related transactions and more recently of the reaction by the legislator aimed at watering down the ACE regime. As we have seen, the Belgian tax authorities reacted to the alleged cases of ACE's related tax planning already in 2008 when a circular was issued dealing with the anti-avoidance provisions applicable to the ACE regime and an assessment action plan was launched. In 2011 an addendum to the above circular was released focusing on specific schemes that were discovered during tax audits.

At the legislative level, over the last years the ACE regime is being progressively weakened with the reduction of the ACE notional rate, the elimination of the carry-forward for the unutilized ACE, and lastly with the introduction of the fairness tax which has basically transformed the Belgian

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[50] See for instance Sénat de Belgique (2011a, 2011b).

[51] Panier *et al*. (2013) provide econometric evidence of an ACE effect on the financial structures of stand-alone companies equal to between 26% and 42% of the effect estimated for subsidiaries.

[52] See Princen (2012, p. 15). Valenduc (2011) analyses the effective taxation on corporate sector finding a clear downward trend following the introduction of the ACE. He also finds an increase of gross profitability and a stable size of the corporate sector. Overall, he argues that the available empirical evidence is consistent with a behaviour by companies consisting in locating equity in Belgium without engaging in any real economic activity on the Belgian territory.

ACE in a partial ACE scheme. Other specific proposals have circulated on the same vein, such as excluding from the ACE base the minimum equity needed for incorporation or even the statutory reserve the companies must maintain.

Very recently, the ECJ decision on the Argenta Spaarbank case stirred uncertainty over the ACE and has reignited the debate about its abolition. Other less drastic reform proposals being discussed include making the system incremental as in Italy and/or tying the ACE deduction to variables such as actual investment, employment, and valued added generated in Belgium.[53]

The analysis above suggests however that the problem does not lie in the ACE-system *per se* – which seems to have brought economic benefits – but in the way in which it has been implemented, granting the allowance to all the existing equity, and accepting the existence of various loopholes that allow for tax planning and which are not closed effectively by the current tax measures. Instead, these current measures aim at limiting the use of ACE.

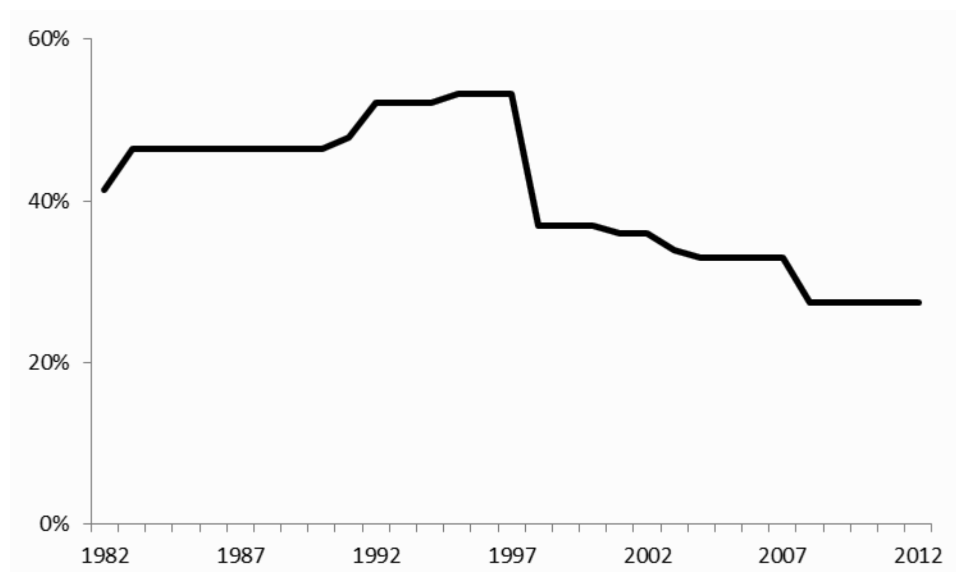
[53] See Castanheira (2013).

3. The Italian experience

3.1 The introduction of the ACE in Italy

In Italy, the corporate tax system has provided historically strong incentives to debt-funding. Figure 7 shows the level of the statutory tax rate on corporate profits at which it was possible to deduct interest costs over the period 1982-2012. In 1996, at the peak, every additional Euro of interest costs made possible a tax saving of 0.53 cents at the corporate level. With a few exceptions (see below), there was no tax saving for an additional Euro of equity costs.[54] The tax treatment of the return to equity and debt at the personal level either exacerbated the tax advantage to debt – in particular over the eighties – or mitigated it only to a limited extent.[55]

Figure 7. The tax value of interest costs for corporations, 1982-2012
(tax savings in % of interest paid)



Notes: the figure takes into account the corporate income tax (IRPEG until 2003 and Ires afterwards) and - for the period 1982-1997 - the local income tax (Ilor).

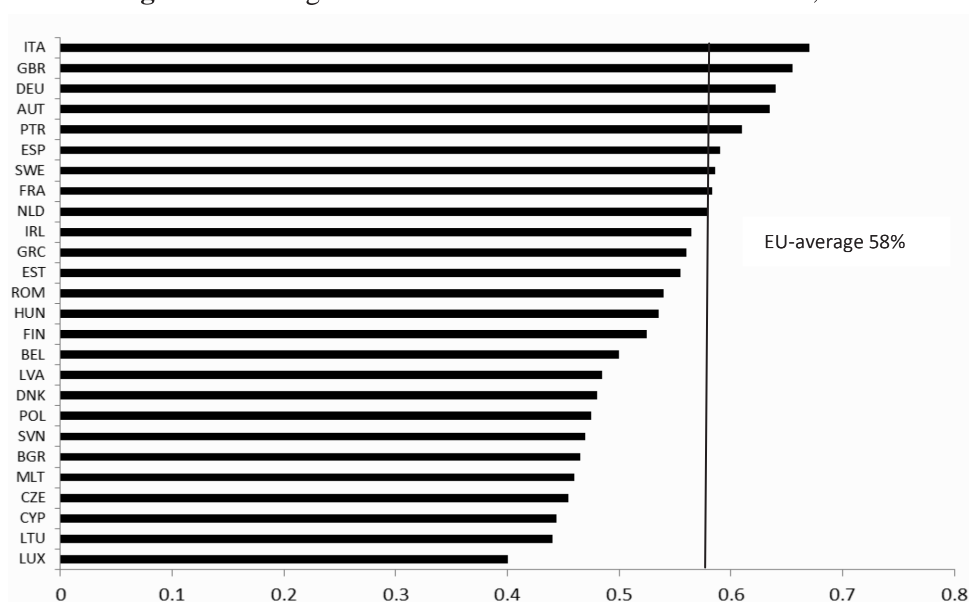
Italian companies have been traditionally characterized by a relatively high reliance on debt finance.[56] This is especially true for SMEs, representing an important part of the corporate sector.[57]

[54] Between 1992 and 1997, the disadvantage to equity was even bigger due to the wealth tax levied at a rate of 0.75%.
[55] See Alworth and Arachi (2001).
[56] See, for instance, Bordignon *et al*. (2001) and the references therein. For more recent data, see for instance IMF (2013: 22-25).

Figure 8 presents country average debt-asset ratios in 2007 for companies covered by the ORBIS database. In 2007, Italy presented the highest leverage at the EU level at 67%, 9 p.p. higher than the EU average.

Factors related to information problems and other market imperfections, alongside the importance in Italy of family-based firms[58], are likely to have played a more important role than taxation in driving firms' financial choices, especially for smaller firms. However, the role of the strong tax-related debt bias cannot be understated[59], especially for larger firms.

Figure 8. Average debt-asset ratio of firms in EU countries, 2007



Source: De Mooij and Devereux (2009: 32).
Notes: Country averages obtained from the ORBIS database.

Since the 1990s several tax measures were introduced either to address directly the debt-bias problem or having indirectly consequences on it. In 1996 a comprehensive tax reform was undertaken and enforced starting from 1997. The statutory tax rate on profits was dramatically reduced by substituting the so-called "local income tax" (Ilor) – levied on profits at a flat rate of 16.2% – with a new value added tax of income type - called *Imposta Regionale sulle Attivita' produttive*, IRAP - featuring a very broad tax base and a low tax rate equal to 4.25%. This change allowed reducing the

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[57] See Banca d'Italia (2009) and IMF (2013).
[58] For recent data, see ISTAT (2013: 65-67).
[59] See, for instance, the discussions in Bordignon *et al*. (1999) and Bernasconi *et al*. (2005).

average effective tax rate on profits, which is an important determinant for international investment and locational choice by multinationals. Crucially, the new tax was neutral with respect to the firms' financial choices, since interest costs were not deductible against the IRAP tax base. Another important element of the reform was the introduction of a mechanism – called Dual Income Tax (DIT) – aimed at reducing the tax burden on equity-financed investment. This was achieved by taxing a given notional return to equity at a reduced tax rate of 19% rather than at the ordinary corporate tax rate of 37%. This means that the DIT was in fact a "partial" ACE scheme.

In 2001, a new government entered into power and adopted a new corporate tax reform. Among other measures, the statutory tax rate was decreased from 37% to 33% and the imputation system for dividends was substituted by a participation exemption. The DIT was first progressively weakened and then repealed as for 2004.[60] Specific provisions aimed at limiting the thin capitalization of large companies were introduced in the form of thin capitalization rules with a debt-to-equity ratio to qualified shareholder of 5 (lowered to 4 in 2005), except for holdings and companies with a turnover lower than about EUR 5.2 million which were not subject to the rules.

In 2008, the corporate tax system experienced another major tax reform. The corporate tax rate was further reduced from 33% to 27.5% and the IRAP tax rate from 4.25% to 3.9%. The revenues losses were financed through several tax base broadening measures: the depreciation rules were made less generous and an earning stripping rule limiting the deductibility of interest costs substituted the 2004 thin capitalization regime. Although the new provisions for interest costs can be considered more burdensome than the thin cap rule - since they apply to all companies - their relevance in addressing the debt bias is questionable because the mechanism works through a postponement of the deductibility of interests exceeding certain thresholds, rather than through their non-deductibility *tout court*.

Against the above background, the Allowance for Corporate Equity (ACE) was introduced in Italy at the end of 2011 in the context of the fiscal policy package enacted to deal with the financial

[60] Apparently, one of the reasons for the repeal by the new government was the reduction of the CIT revenues in the DIT years for which the DIT was considered mostly responsible (see Guerra, 2002).

and sovereign debt crises. The aims were promoting firms' capitalization and boosting growth.[61] The new regime applies to all enterprises. In what follows, we focus on corporations (see Box 3 for a description of the ACE for unincorporated businesses)[62].

Box 3. *The ACE for business income taxed under the personal income tax*

The ACE introduced in 2011 - as the previous DIT regime - also applies to individual entrepreneurs and partnerships. An important condition to be fulfilled in order for a business to get the ACE benefit is keeping ordinary accounting books.

In contrast with the ACE for corporations, the ACE regime for personal income tax (PIT) business entities is not incremental. Indeed, the ACE base is given by the stock of equity resulting from the balance sheet. This can be explained by the difficulties to apply the rules for corporations to other businesses.

The anti-avoidance provisions set out for the corporations also hold for the PIT business entities. If, for instance, a partnership grants a loan - or if it makes a contribution in cash– to a controlled corporation or to a partnership, its ACE base will be reduced by the amount of the loan or cash contribution.

The ACE rate is the same as the one the corporations apply to determine the amount of the deduction.

The ACE for PIT entities is a deduction against business income. This deduction is not considered for determining both the nominal tax rates and the amount of tax credits; therefore it does not affect altogether the progressivity of the personal income tax. Leaving aside the tax credits, this rule implies an effective taxation of the notional return to equity for unincorporated firms ranging from 0% to 20%. As regards the unused part of the deduction in a given tax year, while for individual entrepreneurs this can be carried forward with no time limitations, for partnerships it is attributed *pro rata* to the partners and it can be used to reduce their PIT tax base.

One interesting difference between the DIT and the ACE regarding the PIT entities is that the DIT allowance was originally granted only if the taxpayer had undertaken some choices deemed meritorious, namely the reduction of debt and "real" investments, as opposed to financial ones. The same rules originally applied to permanent establishments of non-resident companies. After some years, however, for PIT entities the conditions on the destination of new equity were abolished, and it was decided to adopt the "full stock" approach. For permanent establishments it was decided to apply the same rules as resident companies.

The ACE for corporations is a deduction against the corporate income tax base meant to approximate the cost of equity.[63] There are no conditions regarding the type of investment. The regime applies to resident companies and permanent establishments of non-resident companies.

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[61] See Ceriani (2012). Interestingly, in the law the relief is denominated ACE, but the acronym stands for "Aiuto alla Crescita Economica" (Aid to Economic Growth).

[62] The description of the ACE legislation is mostly based on the accompanying report to the Ministerial Decree on ACE (issued on March 14, 2012), and on the circulars on ACE issued by Assonime (2012), ABI (2012) and Agenzia delle Entrate (2014).

[63] The ACE is not deductible against the IRAP tax base. However, this is irrelevant for the debt-equity bias because - as we have argued before - IRAP does not affect financial choices. However, this is true only for non-financial firms. For banks, the interest costs are instead deductible also against the IRAP tax base. Therefore, in the banking sector IRAP broadens the tax wedge between debt and equity. This implies that - from an economic point of view - in the banking sector the ACE should be allowed also against the IRAP tax base, if the goal is full neutrality of corporate taxation with respect to financial choices in the financial sector.

3.2 The base and rate of the Italian ACE

a. The base of the Italian ACE.

The ACE allowance is calculated by applying a notional interest rate to a net equity base, the so-called ACE base. A core part of the ACE legislation is the emphasis on the concept of liquidity in the computation of the ACE base. In the ACE reform, this may reflect the prudent approach of the Italian legislator from a budgetary point of view, which is also at the basis of the ACE anti-avoidance set of rules (see below). The ACE has several similarities with the previous DIT regime (see box 4).[64]

Box 4. *Comparison between the ACE and the previous DIT regime*

The new ACE regime has a structure similar to the Italian Dual Income Tax (DIT), in force from 1997 to 2003, mentioned above. Like the former DIT regime, the new ACE refers only to the new equity invested starting from a certain date. In the DIT system, however, this incremental equity was magnified by a multiplier (1.2 in 2000, 1.4 in 2001) to speed up the transition towards the long-run regime where the tax benefit would have been granted to all the equity.

Unlike the DIT, the ACE provides for the complete exemption of the notional return to equity, rather than taxing it at a reduced tax rate. Moreover, in the ACE regime there are no limits to the average effective tax rate, while under the DIT system this rate could not be less than a given threshold (27%).

In the DIT regime, the notional return was based on the average return of public and *private* bonds, and it could be increased by up to three percentage points as a compensation for greater risk. It is interesting to note that in 2000 the rules for the determination of the notional interest rate were changed, introducing the possibility of different rates depending on the location, dimension and type of economic activity. However, the new provisions were never applied.

The new ACE legislation is therefore based on the former Italian DIT, with some adaptations compared to the DIT period of the tax system (e.g. the new consolidation and look-through regimes as for 2004), the civil law (the corporate law reform as for 2003), and the accounting framework. With regard to the latter element, note that as for 2005 Italy has adopted the International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS), not only for consolidated accounts, but also for individual financial statements of listed companies.

The ACE base is defined as the net positive variation of equity as for the end of 2010. Contrary to the Belgian system, the Italian ACE is therefore *incremental*. The notion of equity relevant for the allowance is the accounting one.[65] The net variation of equity stems from the accumulation of (algebraic sums of) specific flows. The flows entering with a positive sign are the contributions in cash[66] and the retained profits feeding reserve provisions satisfying some specific conditions; the

[64] See the Annex for additional information about the DIT regime.

[65] For permanent establishments of non-resident companies, the main reference for the ACE base is to the increase of the so-called free capital ("fondo di dotazione").

[66] To benefit from the ACE, the contributions in cash have to confer the status of shareholder. On this basis, cash inflows related to the issue of hybrid securities – featuring elements of both debt and equity – are excluded from the ACE benefit. The criterion allows a simpler application of the ACE rule, especially for

flows entering with a negative sign are the profits and reserves distributions. This "flow approach" can be considered simpler than the "stock approach" of comparing stock values in two points in time since it directly focuses on the few components which are deemed relevant by the legislator, while the alternative would have required as many adjustments as the number of the components considered not relevant.

The choice of the reserve provisions relevant for the tax benefit can be driven by several goals. For instance, if the goal is that of maximizing the incentives effects of the ACE, while minimizing at the same time the initial revenue losses, one may want to exclude those reserves that are compulsory by law. In Italy, the adopted approach has been excluding from the ACE base those provisions representing valuation profits which cannot be distributed to shareholders,[67] and those provisions built out of "true" profits which neither can be distributed, nor used to cover losses, nor to increase the capital. As an example of the latter type of reserves, one can mention the reserve for own shares that non-IAS companies buying own shares are obliged to set up[68].

The qualified ACE base cannot exceed the net worth of the company existing at the end of the tax year. Given the "flow approach" in computing the ACE base discussed above, this limit was set in order to take into account the effect of losses on net worth (note indeed that accounting losses do not "enter" the algebraic sum to compute the ACE base). In the case of repeated losses, the ACE could have been based on a "virtual" equity. The mechanism is built in a way that losses first decrease the non-ACE part of net worth; and only when the latter is exhausted, the ACE base starts being affected by losses. However, the decrease of the ACE base due to losses is just temporary: if the net worth is

IAS adopters that have to disentangle the equity, debt, and eventually derivative components of the security for the representation into the balance sheet. The extension of the ACE benefit to hybrids would have indeed required the precise identification of the ACE base in these cases, and arguably this would have complicated the legislation.

[67] This means that for IAS adopters the valuation components which enter the profit determination (for instance, the accrued capital gains for financial securities of the portfolio HFT - Held For Trading) are relevant for the determination of the ACE base.

[68] IAS companies do not set up any reserve following the purchase of own shares that directly decreases their equity. Specific provisions ensure an equal ACE-treatment of the own shares transactions, irrespective of the accounting regime.

increased - even by components which in the first place are not ACE-valuable (as the contributions in kind) - the ACE benefit due to, say, a former contribution in cash is re-installed.

b. The rate of the Italian ACE.

The notional ACE rate is based on the average returns on Treasury bonds, and it can be increased of up to three percentage points as a compensation for greater risk. However, it was set at 3% for the first three years of the new regime. The 2014 financial stability law has recently increased the ACE notional rate to 4%, 4.5% and 4.75% for 2014, 2015 and 2016, respectively.

c. Additional aspects of the Italian ACE.

If the ACE is larger than the net taxable income, the excess can be carried forward indefinitely and can increase the ACE allowance of the next periods without being subject to the limits of tax loss carry-forward.[69] Indeed, in the computation of the tax bill, the ACE steps in only once the net taxable income is computed, therefore also after possible tax losses – actual and carried forward - have been considered. This means that the ACE relief cannot itself determine tax losses. Given the existing limitations to tax loss carry-forward, this specific provision is favourable to taxpayers.

3.3 The anti-avoidance framework

a. Specific anti-avoidance provisions of the ACE legislation

Other limits to the ACE base stem from the specific anti-abuse provisions aimed at avoiding a cascading of ACE benefits within groups of companies subject to the same unitary control, or at preventing abuses through sales of assets in order to transform "old equity" into "new equity" that would attract the ACE allowance. As a matter of fact, this is one of the most important parts of the Italian ACE legislation, dealing indirectly with the revenue losses that may stem from an ACE reform due to tax planning reasons. The notion of group is broad, including not only resident companies, but also resident business entities subject to the personal income tax (both individual entrepreneurs and

[69] With regard to the carry-forward regime of unused ACE allowances, a specific regime is in place for companies participating to the tax consolidation regime. Under this regime, the unused ACE at the level of the subsidiary is automatically attributed to the parent and it can be used to reduce the consolidated taxable income. The possible unused part at the level of the parent is re-attributed back to the subsidiary, and it can be brought forward and used in the following years with the same rules.

partnerships).[70] According to the specific anti-avoidance provisions, the contributions in cash, the remunerations for the sale of a business (*azienda*) or parts of a business, the loans, the acquisition (or increments) of control participations - within a group - all involve a reduction of the ACE base for the domestic entity making the contributions, or buying the business or parts of a business, or granting the loan, or acquiring the participations. [71] Under some conditions, the above anti-avoidance provisions will not trigger a reduction of the ACE base if the company injecting somehow the funds into another group's company had previously increased the ACE base by retaining profits.[72]

Other specific anti-avoidance provisions are directed to some types of non-resident companies. These companies are not a direct target of the anti-avoidance provisions because they cannot directly gain from the ACE. However, they can be involved in avoidance schemes as vehicles to re-direct back in Italy contributions that did already profit from the ACE. In order to deal with such cases, two types of provisions have been introduced: (i) one is directed to the cash contributions made by non-resident companies located in countries that have not agreed to implement the exchange of information for tax purposes; (ii) the other to the cash contributions made by non-resident companies located in countries that do allow the exchange of information. While in the first case, the contributions will have always to be deducted from the ACE base (given the difficulty of their assessment), in the second the deduction is conditional on the existence of control by the Italian company.

The rules for non-resident companies seem to leave room for a cascading of ACE benefits through triangulations with foreign companies controlling subsidiaries in Italy. However, the existence

[70] The notion of “control” is defined with reference to the Civil law. A company is considered to be controlled if: another company holds, directly or indirectly, the majority of the votes at the shareholders’ meeting or sufficient votes to exert a determinant influence in the shareholders’ meeting; or if the company is under the significant influence of another company due to a special contractual relationship.

[71] Apart from other minor differences, in the computations of the former DIT base a deduction was also operated for the increments with respect to the base date of the stock of financial instruments other than shareholding. This provision aimed at incentivizing investments in tangible assets and at avoiding specific abuses through the trading of financial assets through related parties (See Ministero delle Finanze, 1998, p. 8).

[72] The company injecting funds into another group's company avoids the correction of its ACE base if it can prove that: i) it has not received contributions from other group's companies; ii) it has not received loans from other group's companies that, in their turn, had previously received contributions from other group's companies (see Agenzia delle Entrate, Circolare n. 12/E, 23 Maggio 2014).

of stricter rules for foreign companies resident in a "black list" country or resident in a "white-list" country and controlled by an Italian company makes it clear that the ant-avoidance system applicable to companies resident in "white-list" countries focusses on the most dangerous case, while at the same time avoiding penalizing the equity injections into Italian subsidiaries. This implies that the equity injections by a foreign company resident in a white-list country into an Italian subsidiary could easily fall under the spotlight of the tax authorities if the Italian subsidiary had already increased its equity and funds had been channelled abroad via say intra-group loans (see below the discussion about the general anti-avoidance rule).

One notable feature of all the above specific anti-avoidance provisions is the fact that they are *automatic*, in the sense that the firm has to directly apply them when it files the tax return. However, it is envisioned the possibility to ask for the disapplication of such provisions, by presenting an advance ruling, proving that in the specific case there is no ACE cascading. Another important feature of all the above anti-avoidance provisions *but the one regarding the loans* is the fact that they involve a permanent reduction of the ACE base. In other words, once the conditions for the ACE base sterilization are in place, there will be a permanent reduction of the ACE base even if these conditions will not hold anymore in the future, or even over the same tax year. For credits, the reduction is instead just temporary: this means that once the conditions for sterilization are not satisfied anymore, the initial ACE benefit is re-installed.

b. *General anti-avoidance rule and the ACE*

With regard to the tax avoidance incentives, one reason of concern about the Italian ACE regards its incremental nature and the consequent possibility for companies to re-categorise their old capital as new capital through liquidations and start-ups, increasing in this way the revenue cost of the reform in the short run.[73] These types of tax planning schemes are indeed not covered explicitly by any specific anti-avoidance provision. The main reason has probably to do with the fact that in many

[73] In general, among other things the incentive to set up such tax planning schemes depends on the extent to which the assets have been already written off in the tax accounts and the gap between the rate of return on assets and the notional return to equity (Griffith *et al*., 2010: 980-981).

instances the company's transaction costs of such avoidance schemes are larger than the tax savings they would allow. In any case, the list of specific anti-avoidance provisions is not intended to be exhaustive, and there is always the possibility to rely on the general anti-avoidance rule for any residual abuse of ACE.[74] In this case, however, the tax authority has to prove the existence of an actual benefit stemming from the ACE cascading contrary to the spirit of the law, the mere possibility of taking advantage of the ACE cascading being not sufficient to challenge the company's choices.

3.4 An assessment of the Italian experience with ACE-type reforms

3.4.1 Tax design

The introduction of an ACE-type corporate tax system has strengthened the tax design of capital and business taxation, bringing the Italian system closer to a Dual Income Tax (DIT), namely a system where earnings are taxed at progressive rates while capital income is taxed at a flat rate below the highest rate of the personal income tax rate structure.[75] The extension of the ACE to unincorporated businesses is in this respect a necessary step for the overall consistency of the taxation of business income and for the overall neutrality between debt and equity, at least for investments financed out of domestic funds.[76] A step to further improve the design of the ACE could be to ensure that the notional income for unincorporated businesses is taxed at a unique flat rate, simplifying the present system where it is instead taxed at a rate ranging from 0 to 20% (see Box 3).[77]

[74] The reference is to article 37-bis of Presidential Decree No. 600 of 1973, entered into force in 1997, which sets out a general principle of artificiality of tax arrangements, listing a number of cases where this can be applied. Note that in recent years several Supreme Court decisions, based on constitutional principles, appear to have widened the possibility by tax authorities to challenge and overturn tax schemes, relying on the abuse of law concept.

[75] See Arachi and Santoro (2011), IMF (2012), and Arachi (2013). Notice that as for 2012 the taxation of dividends and interests (other than government debt) has been increased. The flat tax rate is now 20% (previously 12.5%).

[76] The Italian system, after the introduction of an ACE extended also to unincorporated businesses, resembles somehow the "income tax regime" advocated for Britain by Griffith, Hines and Sørensen in the Mirlees Review (Griffith *et al*., 2010: 981-986).

[77] Another measure needed for a more rational tax system for capital income is getting rid of the distinction between qualified shareholdings (i.e. "substantial"), taxed partially at progressive PIT rates, and non-qualified shareholdings, taxed at a flat rate of 20%, as interest income (see Arachi, 2013).

3.4.2 Debt bias

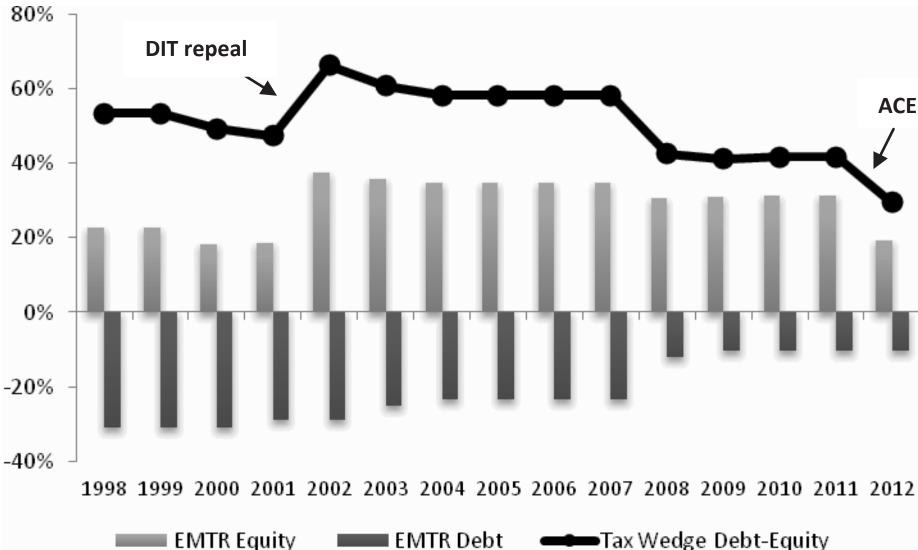
With regard to corporate business income, the 2011 ACE reform has decreased the cost of capital for equity-financed investments and therefore the tax bias between debt and equity. Figure 9 shows that the tax wedge between equity and debt - measured as the difference between the EMTRs equity- and debt-funded investment - has fallen in 2012 by almost 30% as a result of the ACE.[78] Thanks to the reform, Italy showed in 2012 a debt bias below the EU average.[79] The bias is expected to decrease further over the following years given the increase of the notional ACE rate provided by the 2014 financial stability law. This measure will indeed narrow the gap between the market interest rate assumed for the computation of the EMTR figures (5%) and the notional ACE rate. Available simulation evidence based on tax return data shows that in terms of average effective taxation the ACE effects appear larger for SMEs (although, in relative terms they benefit from the ACE less than larger companies)[80], companies belonging to groups, export-oriented companies and multinationals.[81] Clearly, it is too early for an assessment of the effects of the ACE reform on firms' indebtedness. This is even more so considering the difficult conjuncture the Italian economy is into after the financial and sovereign debt crises.

Some useful evidence is nevertheless available for the ACE-type reform enacted at the end of the 1990s with the Italian Dual Income Tax (DIT). As the figure G shows, also the DIT was effective in reducing the tax discrimination between debt and equity. Indeed, as for 2002 the increase of the tax wedge following the DIT repeal is obvious.[82] On the basis of the existing empirical evidence, the reduction of the tax wedge between debt and equity was effective in balancing firms' financial structures. Staderini (2001) analysed the effects of the DIT reform focusing on the period 1993-1998. She measured the relative advantage of debt over equity through a Miller index, taking into account

[78] See also ISTAT (2013a, 2013b), Arachi *et al*. (2012), Caiumi *et al*. (2013).
[79] See European Commission (2013b: 62). See also Center for Business taxation (2012)
[80] However, this larger benefit for the smaller companies will tend to disappear and even to reverse in the long run, where the reduction of the average effective tax rate will tend to be higher for larger companies (see ISTAT, 2014: 235).
[81] See ISTAT (2013b: 26-27; Allegato statistico: 44-46) and ISTAT (2014: 229-236)
[82] See also Bordignon *et al*. (1999, 2001).

not only the corporate taxation, but also the taxation of interests and dividends at the personal level. According to her computations, the Miller index dropped by almost 50% as a result of the DIT (from 57% in 1996 to 29% in 1998). The long-run effect of this change on the leverage ratio was estimated to be as high as about -4.3%. Results in the same vein can be found in Bernasconi *et al.* (2005) that estimated a strong reduction of the probability of issuing debt following the enactment of the DIT.

Figure 9. EMTR in % on debt- and equity-financed new corporate investment in Italy, 1998-2012



Source: ZEW (2013)

3.4.3 Budgetary impact of incremental ACE-type reforms

As regards the budgetary assessment of the Italian incremental ACE reform, one needs to distinguish between the short and the long run. As for the short-run impact, among other things this depends on the rollout of the reform and the economy's cyclical situation. At present, data is only available for tax year 2011.[83] In 2011, the first year of introduction, about 205,000 companies used the ACE, representing 20% of the total number of companies (30% of the number of companies with a positive taxable income). The CIT budgetary cost was about EUR 0.41 bn, corresponding to 1.3% of the 2011 actual CIT revenues. The revenue shortfall due to the ACE for PIT entities was instead about

[83] See http://www.finanze.gov.it/stat_dbNew2011/contenuti/analisi_dati_2011_ires.pdf.

0.22 bn.[84] The actual revenue loss for companies has been half of the forecast made at the end of 2011. This is likely due to the fact that the reform was enacted at the end of 2011 (with no time left for behavioural responses) and to the weakness of the economy, which was reflected into the corporate sector balance sheets. The weak economic recovery is probably also one of the reasons for the recent downward revision of the overall ACE revenue loss forecasts in the context of the ACE measures undertaken by the 2014 financial stability law.[85] As time will go on, new equity will replace old equity and the budgetary cost will likely increase. The time needed to get to the final regime depends on many factors and it is difficult to make conjectures. During the DIT period, after five years the ratio between the DIT base and total equity for the companies benefiting from the DIT was about 50% (see the following figure 10 and Annex 1). Simulation evidence of the effects of the ACE - based on tax return data, shown in ISTAT (2014) - is broadly consistent with the actual figures of the DIT period: after five years - in 2015 - the ratio ACE base/total equity for about 95% of companies benefiting from the ACE will be between 40% and 50%.[86]

Turning to the long-run impact of the reform, the available measurements of the gross budgetary cost of a generic ACE reform in Italy give very contrasting results, reflecting probably the diversity of the measurement approach: while de Mooij (2011) – using a very short sample of Italian companies – provided a balance sheet measure of the CIT revenue loss equal to 12.6%, de Mooij and Devereux (2011) – using a general equilibrium model parameterized on the basis of some basic features of the corporate tax system and the corporate sector – simulated an hypothetical reduction of CIT revenues approximatly equal to 50%.[87]

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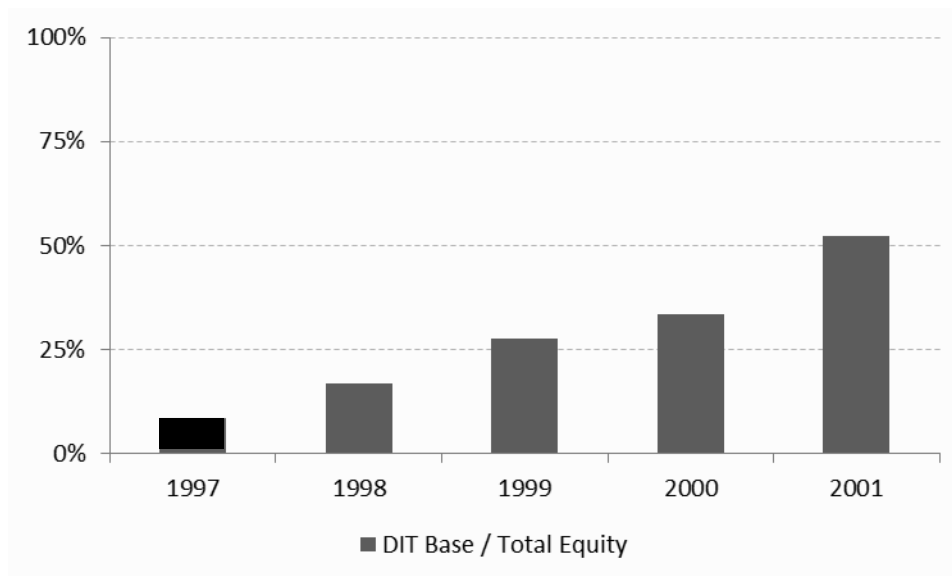
[84] See Senato della Repubblica (2013: 76).

[85] While at the launch of the reform at the end of 2011 it was forecasted an increasing revenue cost from about EUR 1 to 3.4 bn by tax year 2014 (3% and 9% of 2011 CIT revenues, respectively), the recent forecasts point to an increasing revenue loss which should reach about EUR 2.4 bn by tax year 2016 (6% of 2011 CIT revenues).

[86] See ISTAT (2014: 235-236).

[87] In a hearing at the Italian parliament, Vitaletti (2011) quoted an estimate based on balance sheet data of the gross revenue losses of an ACE-type reform in Italy equal to approximatly half of the overall CIT revenues, but he did not provide details regarding the assumptions made.

Figure 10. The speed of convergence of the incremental DIT towards the full DIT



Notes: 1997 is not available and it has been assumed that the figure is half the one in 1998. "DIT base" is the difference between the (sum of the) increments and the (sum of the) decrements as for September 1996, corrected for the cases where this difference was higher than equity (see par. 3.2). "Total Equity" was reported by taxpayers filling the DIT section of the tax return.
Source: own elaborations from data MEF-Dipartimento delle Finanze.

We are not aware of measures or estimates of the long-run budgetary cost of the ACE reform taking into account the specific features of the Italian CIT (such as the carry forward of tax losses and the tax consolidation regime), the Italian ACE provisions (such as the carry forward of unused ACE allowances, the anti-avoidance framework and the limits to reserve provisions relevant for the benefit), and of the structure of the Italian corporate sector (distribution of tax payments, profitability, etc.). In any case, these measures or estimates would be subject to a high degree of uncertainty, given the multiplicity of interrelated elements potentially affecting the final outcome.[88]

4. A comparison between the two regimes and a tax policy assessment

Table 1 summarizes the most important elements of the Italian and Belgian ACEs and sets the scene for a comparison of the two regimes and a tax policy assessment. Some of the differences between the two systems have been emerging recently due to the changes of the Belgian ACE enacted in the attempt to limit its revenue losses, such as the introduction of the Fairness Tax and to the repeal of the carry forward of the unused ACE allowances.

[88] The Annex provides an assessment of the static budgetary impact of the DIT, based on tax return data, including a sensitivity analysis of some of the most relevant parameters driving the results.

The provisions for setting the ACE notional rate have some interesting features, such as the special treatment for SMEs in Belgium, and the potential increase of the base rate as a compensation for greater risk in Italy. However, arguably these provisions can be considered less relevant for the comparison, not least because - as we have seen for instance in Italy - governments tend to get around them when facing budgetary pressures. In what follows, we comment on the residual differences between the two systems.

Table 1. A comparison between the Italian and Belgium ACEs

	Belgium	**Italy**
ACE Base	Full accounting equity	Incremental accounting equity
ACE Rate	Average long-term (10y) Treasury bonds' rates with a cap (3%) (+ 0.5% for SMEs)	Average Treasury bonds' rates + up to 3% as compensation for greater risk
Notional return to capital	Taxed under the FaTa	Exempt
Scope	Corporate sector	Corporate sector and non-corporate business sector
Conditions on the destination of funds	No	No
Anti-avoidance provisions targeting intra-group transactions	No	Yes
ACE carry forward	No	Yes

A. The incremental feature.

The most relevant difference between the Belgium and Italian ACEs regards the definition of the ACE base. While in Belgium the ACE allowance is granted to the full stock of equity, in Italy companies are entitled to deduct a notional return only for the new equity cumulated after the reform. Although the two systems provide basically the same incentives for investment and address in the same way the debt bias problem, they are different along at least two dimensions. First, the full equity system entails windfall gains for the capital already installed. In this sense, it is less efficient that the incremental ACE. Second and most important, the two systems have a very different impact on the public budget over the short and medium term. Since in the long-run all equity will benefit from the ACE, the latter difference is mostly an issue of transition. However, one should not understate the

advantage of the incremental ACE in terms of a better matching between costs and benefits of the reform.

The rationale for an ACE reform in an open economy with high capital mobility is related to the capital flight triggered by the taxation of the normal return to capital (say the going market interest rate) through a source-based corporate income tax.[89] In the long-run, the exemption of the normal return to capital via an ACE system will stimulate domestic and inbound investments. *Over time*, this will tend to raise the pre-tax returns of the domestic immobile factors of production (land, labour) to such an extent that, even if all the lost revenues due the ACE were recouped through higher taxes on these factors[90], these will likely be better off, ending up with higher net-of-tax returns. While generally the CIT revenues will decrease following an ACE reform, *over time* the increase of employment, wages, and GDP associated to the investment expansion will boost not only the corporate tax revenues, but also the other tax revenues. In the long-run, the overall budgetary cost of the ACE reform will therefore be lower.[91] By matching over time the budgetary costs of the reform with the above economic and budgetary benefits, an incremental ACE appears a more viable and stable reform with respect to a standard ACE: it can be more easily implemented since it does not entail big revenue losses in the short run; it gets gradually stronger over time as its benefits unfold, strengthening in this way the tax design of the corporate income tax towards a more efficient system.

One potential drawback of the incremental ACE is the possibility for a company to get around the incremental provision in order to benefit from the allowance on "old" equity, through sales of assets/participations within groups, or by combining liquidations and start-ups. This could partially nullify the advantage of the incremental ACE over the standard regime. In order to prevent this, anti-avoidance rules need to be in place. As we have seen, the Italian anti-avoidance provisions tackle the

[89] See Griffith *et al*. (2010: 973-978). Note however that if the reform entails an increase in the statutory corporate tax rate to keep the reform revenue-neutral, then companies with rents that are not location-specific can choose the relocate.

[90] Note that both in Belgium and Italy the ACE reforms were not financed adjusting the corporate tax rates.

[91] Some simulation evidence can be found in de Mooij and Devereux (2009). For instance, in the case of an ACE financed through non distortionary taxes, the final gross budgetary cost is about ¼ of the initial one.

first cases. The second case is not explicitly targeted, but it can be considered to fall within the scope of the general anti-avoidance rule.

B. The anti-avoidance framework

The discussion about possible abuses aimed at maximizing the benefits in an incremental ACE brings us to the comparison between the Belgian and the Italian ACE anti-avoidance frameworks. Let us start from an important similarity: the role of the general anti-avoidance provision based on the abuse of law concept as a firewall of last resort for the cases of abuses not covered by specific rules, or not even conceived by the legislator. One may argue that that residual role played by the general anti-avoidance rule in the two systems tends to make them more equal that it may appear in the first place. However, it is important to highlight that the protection of a general anti-avoidance rule cannot be considered as strong as that of a set of well-targeted specific anti-avoidance rules, not least because specific rules have to applied *ex ante*, while a general anti-avoidance rule has just *a chance* to be applied *ex post*.

In Belgium, the specific anti-avoidance provisions of the ACE legislation target specific abuses, like the cascading of ACE benefits through participations or own share subscriptions, or the case of assets inflating the ACE base but that are not used for the company's activity. One notable feature of these law provisions is that they do not target transactions between related parties. As we have seen, this leaves room for transactions aimed at optimizing the ACE benefit, as in the cases of intra-group loans, transfers of participations and creation of subsidiaries. In Italy, the anti-avoidance framework is instead built around transactions between (resident) related parties that can potentially determine abuses in the use of the ACE. Within-group cash contributions, loans, asset transfers, and acquisitions or increments of control participations, all determine a correction of the ACE base in order to avoid cascading effects. Specific anti-avoidance provisions are in place to tackle abuses through triangular transactions involving foreign entities that can be used to get around the rules for resident entities. The lack of reference to contributions in kind as a driver of the ACE base dynamic further strengthens the framework.

Although the Italian ACE system is probably not fully immune to tax planning, the presence of several specific anti-avoidance provisions targeting within-group flows of funds, together with its incremental feature based on the cash contributions, makes it arguably more robust to tax avoidance. For instance, taking as a reference some of the tax planning schemes described for Belgium:

(i) in the Italian ACE it is not possible to inflate the ACE benefits by simply creating a subsidiary because contributions in kind are not relevant for the ACE base;

(ii) double dipping structures combining interest deductibility and ACE allowance could in principle be implemented also in Italy, but they seem only possible in less "aggressive" forms, thanks to the anti-avoidance rule targeting intra-group loans;[92]

(iii) the anti-avoidance rule targeting intra-group loans makes it impossible in Italy to cascade the ACE benefits through the triangulation with a domestic holding company with a zero ACE base;[93]

(iv) the anti-avoidance provisions targeting equity contributions by foreign companies make it in some cases unfeasible (foreign company resident in a "black list" country), and in other cases more difficult (foreign company resident in a "white list" country), a cascading of ACE benefits through triangulations within multinational groups.[94] [95]

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[92] Let us assume a resident company A with an ACE base equal to zero. It may be e.g. a company that has moved into an "ACE irrelevance" state because some of its transactions fell in the previous periods within the scope of the specific anti-avoidance provisions. This company may be used as vehicle for double dipping structures within the group. More precisely, company A may take out a bank loan and then inject the funds as equity capital into other group's companies. With this scheme, the ACE base of the latter companies will increase, the ACE base of A will continue to be zero and, moreover, A will benefit from a deduction for the interest costs on the loan. At the end of the day, at the group level there would be a double deduction for the same flow of funds, and the investments funded through these structures would be subsidized. A more subtle and aggressive way to set up such double dipping structure is when company A borrows the funds from the group's companies whose share capital it subscribes. This latter scheme is not possible in Italy because of the specific anti-avoidance provisions targeting intra-group loans that would correct the ACE base of the companies receiving the equity contributions and then grating the loan, offsetting in this way the initial increase of the ACE base. Instead, in Belgium this type of scheme may be challenged only *ex post* and in specific cases (not including generally internal group banking), as specified by the administrative regulations issued in 2011.

[93] In terms of the domestic example in figure 5 (par. 2.3.3), in Italy the ACE base of C1 would decrease by the amount of the loan granted to the holding. At the level of the group, the ACE base increase would then be equal to E, corresponding to the increase at the level of C2 (in the case the ACE base of the holding is initially zero).

[94] Given the international example of figure 5 (par. 2.3.3), if B1 is resident in a "black list" country or it is resident in a "white list" country and is controlled by Italian companies (S1 and/or S2), the ACE base of S1

Table 2 summarizes the different protection level provided by the specific anti-avoidance rules in the Belgian and Italian ACE systems with reference to the tax planning schemes described above.

While a more pervasive anti-avoidance framework appears necessary to improve the design of an ACE system, it also entails some costs. First, it may increase the complexity of the tax system, generating administrative and compliance costs. Second and more importantly, a more pervasive anti-abuse set up may generate some hidden costs by increasing the uncertainty for companies regarding the tax treatment of otherwise legitimate transactions, though having effects in terms of ACE. The above problems can be arguably minimized by an effective advance ruling procedure - that would allow companies to get the green light from the tax authorities regarding the tax treatment of a given transaction - and possibly by administrative regulations clarifying the position of tax authorities with regard to the admitted and/or targeted transactions.

C. The scope of the allowance.

Another interesting difference between the Italian and Belgian ACE systems regards their scope. In Belgium, the allowance is limited to the corporate sector. This means that there is a different tax treatment of the normal return to capital between incorporated and unincorporated entities: in the corporate sector, it is exempt; in the non-corporate sector, it is taxed under the personal income tax at a marginal rate that can be as high as 50% (plus municipal surcharges). In Italy, the ACE regime applies not only to companies, but also to individual entrepreneurs and to partnerships. In principle, this allows achieving a better coherence in the taxation of business income, and it should trigger efficiency gains, addressing the distortions in the choice of the organizational form.[96]

(or S2) would be reduced by E. At the level of the group, therefore, there would not be any ACE base increase since the higher ACE base for S1 would be offset by a decrease either of its ACE base or of the ACE base of S2.

[95] In the international example of figure 5 (par. 2.3.3), if S1 and S2 are subsidiaries of a multinational group and the foreign company injecting the equity is resident in a white-list country, in principle it is possible a cascading of ACE benefits as the one described for the Belgian ACE. Note however that the existence of specific provisions to avoid triangulations through foreign companies in other circumstances makes the above case an obvious target of the tax authorities that could be easily challenged under the general anti-avoidance provision.

[96] See Griffith *et al*. (2010: 981-986).

Table 2
Tax planning, ACE base definition and specific anti-avoidance provisions of the Belgian and Italian ACE legislations

Tax planning scheme	Belgium	Italy
Setting up a new subsidiary through equity contributions in kind	YES	NO
Double dipping structure combining ACE and interest deductibility		
External debt raised:		
At home by a company with an ACE base equal to zero (a)	YES	YES
Abroad by (c):		
foreign parent resident in a "white-list" country	YES	YES
foreign company resident in a "white-list" country and controlled by the resident company		NO
foreign company resident in a "black-list" country		NO
Internal debt raised:		
At home by a company with an ACE base equal to zero (a)	YES (b)	NO
Abroad by (c):		
foreign parent resident in a "white-list" country	YES	YES
foreign company resident in a "white-list" country and controlled by the resident company		NO
foreign company resident in a "black-list" country		NO
Cascading of ACE benefits (triangulation with a:)		
Domestic entity with an ACE base equal to zero (a)	YES	NO
Foreign entity resident in a (c):		
"white-list" country (foreign parent)	YES	YES
"white-list" country and controlled by the resident company		NO
"black-list" country		NO

Notes:
(a) it is assumed that the domestic company with the ACE base equal to zero has an initial tax base large enough to benefit from the additional deduction of interest costs;
(b) this type of scheme may be challenged only *ex post* and in specific cases (not including generally internal group banking), as specified by the administrative regulations issued in 2011.
(c) "white-list" country is a country that allows the exchange of information for tax purposes; "black-list" country is a country that does not allow the exchange of information for tax purposes.

D. The destination of funds.

In both the Belgian and Italian regimes, there are no conditions on the destination of equity funds in order to benefit from the ACE allowance. A possibility for reducing the revenue losses of the ACE regime could be to grant the allowance only to specific types of investments, such as those in

R&D, or in tangible assets. In some cases, these limits may be set up also as anti-abuse firewalls, as in the former Italian DIT where there were specific provisions limiting in some circumstances investments in financial assets. The limits to types of investment could be enacted also as an attempt to reap to a maximum extent the dynamic economic benefits of the ACE reform discussed above.

However, there are some potential drawbacks in setting limits to the investments, which are similar to those raised for tax expenditures.[97] These limits would likely complicate the system, increasing compliance and administrative costs, as for instance in the cases of borderline investments. Moreover, the modified ACE regime would be also subject to lobbying pressures for the inclusion of types of investments among the ones getting the allowance. Overall, the case for such kind of modification of the ACE regime is not at all clear.

E. Broad vs. narrow definition of equity

In principle, another possibility to reduce the gross budgetary cost of the ACE – considered for instance among the possible future changes of the Belgian ACE – is to limit the allowance to a narrower definition of equity. One may for instance exclude the company's minimum equity capital and those reserve provisions that are compulsory by the law. As we have seen, in Belgium there are not such rules. In Italy, there are some limitations on the reserve provisions that can benefit of the allowance. In principle, these types of solutions may maximize the incentive effects of the ACE - granting a tax benefit only for voluntary equity capital/injections – while at the same time limiting to some extent the ACE revenue shortfall. However, the budgetary impact is likely to be very modest.[98] Moreover, this type of measure may end up being relatively more disadvantageous for smaller companies.

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[97] See, for instance, European Commission (2013b: 55).

[98] For instance, for Italy by taking into account the minimum capital requirements for joint stock companies (EUR 100 000) and limited liabilities companies (EUR 20 000), and the minimum legal reserve provision (1/5 of the minimum capital requirement), in 2011 the reduction of the revenue shortfall of a hypothetical textbook ACE would be only about 0.5% of the CIT revenues (Source: elaborations on data available on http://www.finanze.gov.it/stat_dbNew2011/contenuti/analisi_dati_2011_ires.pdf).

F. Accounting vs. tax equity.

An interesting common element of the two systems with respect to the textbook ACE is the missing link between the ACE base and the tax accounts. This follows from the fact that both in Belgium (where taxation follows generally accounting) and – implicitly – in Italy the reference point for the ACE base is the accounting definition of equity, which is accrual-based.

The effects of temporary misalignments between tax and accounting are sterilized from a net income point of view – and therefore from an equity point of view – by the registration of deferred tax assets (DTAs) and deferred tax liabilities (DTLs) into the balance sheet. As a result, one of the economic benefits of the textbook ACE is not achieved, namely that of making irrelevant from a cost of capital point of view the differences between accounting and tax books.[99] Deferred tax accounting would allow in principle to "switch-on" the ACE neutrality property with respect to the misalignments between tax and accounting income by adjusting the ACE base for the value of the DTAs and DTLs written into the balance sheet: the DTAs should increase the ACE base, while the DTLs should decrease it.

5. Conclusion

This paper discusses the experiences of Belgium and Italy in applying an ACE-type system. Our aim is to derive some tax policy lessons for the implementation of a well-functioning, more stable and more robust ACE system. The focus is on the capacity of an ACE reform to effectively induce a rebalancing of firms' financial structures, and on the two common concerns about its actual viability, somehow interrelated: the shrinking corporate tax base with consequent revenue losses, and the tax avoidance incentives that it may generate.

The ACE-type system implemented in Italy – with its incremental feature and its comprehensive tax avoidance framework – can be considered close to a best practice. Such kind of

[99] See the IMF report on the Italian "legge di delega fiscale" (IMF, 2012). See also Oxford Center for Business Taxation (2012: 9). Note that this feature of the real-world ACEs – with respect to the textbook ACE - ends up being in some cases advantageous for the taxpayer (when a deferred tax liability is registered in the balance sheet; example: accelerated depreciation); in other cases, disadvantageous (when a deferred tax asset is registered in the balance sheet; examples: tax loss carryover or – for Italy - the rules limiting the deductibility of loan losses provisions for the banking sector, in force until 2013).

reform can be more easily implemented than a textbook ACE, since its revenue losses are limited over the short- and medium-term. By matching over time its direct increasing budgetary costs with its increasing economic and (direct and indirect) budgetary benefits associated to the induced investment expansion, this type of reform gets gradually stronger over time, strengthening in this way the design of the taxation of business income towards a more efficient system. The anti-avoidance framework targeting intra-group transactions limits the revenue losses due to the tax planning operating through changes of the internal financing structure, and indirectly favours a rebalancing of the external financing structure, which should be arguably the most important goal of an ACE reform.

At the opposite, the performance of the ACE-type system in Belgium – featuring an allowance granted to the full stock of equity and a looser anti-avoidance framework – is rather controversial. While this reform seems to have brought some economic benefits in terms of a reduction of leverage, since the beginning it has also triggered large and increasing revenue shortfalls. The anti-avoidance framework of the Belgian ACE – and in particular the lack of provisions for transactions between related parties, such as intra-group loans – is an integral part of its design, given the initial goals of replacing the coordination centre regime and of improving the attractiveness of Belgium for multinationals. Tax optimization schemes have indeed allowed *de facto* a reduction of the average burden of the corporate income tax. However, the effects of a lax anti-abuse system may well have been underestimated. From an economic point of view, the possibility of double dipping structures combining interest deductibility and ACE allowance(s) may have added distortions by subsidizing certain types of investments, while at the same time leaving basically unchanged the incentive to take on debt. From a budgetary point of view, the incentives to optimize the use of the ACE especially within group structures has increased the revenue shortfall, as it is witnessed by the reaction by tax authorities and by the legislator after just a few years since the launch of the reform. The many legislative measures undertaken to limit the budgetary cost of the ACE have not addressed the crucial problem of the loopholes in the anti-avoidance framework. On top of that, these measures seem to have generated instability and complexity in the corporate tax system and uncertainty over the

prospects of the ACE reform, undermining in this way the same goal of improving the attractiveness of the country for multinational groups. In terms of tax design, it appears particularly unwarranted the introduction of a new tax – the Fairness Tax – also to limit the revenue losses of the ACE.

While there is not a one-size-fits-all solution exportable as such in other countries, the ACE type system implemented in Italy may serve as a good example of a viable solution for an ACE reform to address the debt bias in the corporate sector. The Belgian ACE experience seems instead to show that forcing a tax system - the ACE - imagined to achieve a certain target – the reduction of debt bias and leverage in the corporate sector – to achieve (also) other targets, in this case the replacement of the Coordination Centre Regime and the indirect reduction of the corporate tax burden through a lax anti-avoidance framework, may have unintended consequences, impairing the performance, the stability and the same acceptability of the system.

Annex

The Italian Dual Income Tax (DIT): an assessment of the static budgetary impact based on tax return data

In the period 1997-2003, Italy applied a corporate tax system called Dual Income Tax (DIT) which shares many features with the current Allowance for Corporate Equity (ACE). The main goal of the DIT was indeed incentivizing firms' capitalization by re-balancing the tax treatment of debt and equity through a lower taxation of the notional return to equity.

The DIT was an incremental regime since it referred to the new equity invested starting from a certain date. In order to speed-up the transition towards the final regime – where the tax benefit would have been granted to all equity – the incremental equity was magnified by a multiplier equal to 1.2 in 2000 and 1.4 in 2001.

The notional return was based on the average return of public and *private* bonds, and it could be increased by up to three percentage points as a compensation for greater risk. It was set at 7% from 1997 to 2000, 6% in 2001, 3% in 2002 and 2003.

Unlike the standard ACE, the DIT provided just for a reduced taxation of the notional return of equity, rather than for the complete exemption. The notional return to equity was indeed taxed at 19%, while the ordinary rate was 37% until 2000, 36% in 2001 and 2002, and 34% in 2003. Moreover, in the DIT system the effective tax rate could not be less than a given threshold (27%), which was eliminated as from 2002.

Specific anti-abuse rules were set in place to prevent a cascading of DIT benefits within groups of companies and also to incentivize investments in tangible assets as opposed to financial assets.

Alongside the general DIT regime, there was an alternative, more advantageous, specific DIT regime for newly listed companies with the notional return to equity taxed at 7% rather than 19%, and with the minimum tax rate equal to 22 rather than 27% (for the first three years after listing). As for 2002 there was also another alternative, optional, DIT regime for all companies. Under this regime, the multiplier was 1.4, the notional tax rate was equal to 5.7% in 2002 and 5% in 2003, but there was a minimum rate equal to 30% (22% for listed companies).

The DIT regime was initially applied to all economic sectors, but the financial sector. It was applied to the financial sector in 2000. The preferential tax treatment of the notional return to equity tax rate was however calculated on the equity cumulated as for 1997.

Although the DIT was abolished at the end of 2003, it was progressively watered down from 2001 by freezing at the end of June 2001 the equity relevant for the computation of the allowance, and by reducing the notional rate.

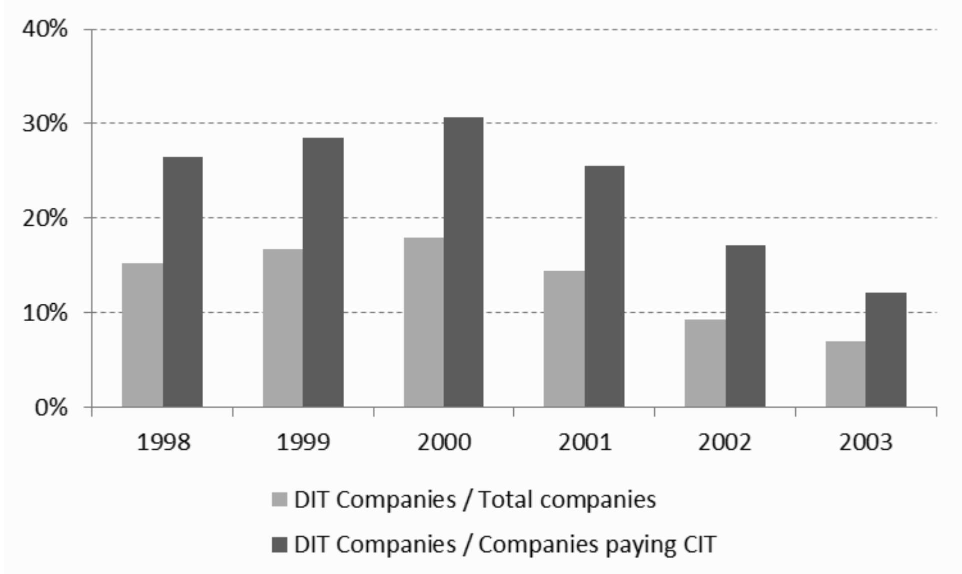
Note that the DIT regime was not applied by all the corporations increasing equity in the DIT period. As for 1999, alternative temporary tax deductions were also provided for investments in new tangible assets funded through equity[100]. In other words, given an investment in tangible assets funded (partially) with equity, a firm could benefit for some years of these alternative tax reductions and benefit afterwards of the DIT allowance for the equity increase associated to these tangible assets.

In what follows we provide some tax return information about the DIT regime and some figures regarding its static long-run revenue losses.

Figures A1 and A2 present some data regarding the use of the DIT over the period 1998-2003[101]. Focusing on the sub-period 1998-2001, figure A1 shows that the DIT was used by about 15% of all the companies, corresponding to about 1/3 of the companies paying taxes.

Figure A2 shows the cumulative distributions by income classes of the number of taxpayers and the DIT revenue losses in 2000. As it is clearly visible, the DIT was used relatively more by larger companies. Indeed, the 5% largest companies in terms of taxable income did account for almost 86% of the overall CIT revenues and almost 90% of the DIT revenue losses in 2000 (companies belonging to the last income class – income larger than about EUR 2.5 mio, 0.6% of taxpayers – did account for about 65% of the overall CIT revenues and almost 72% of the DIT revenue losses).

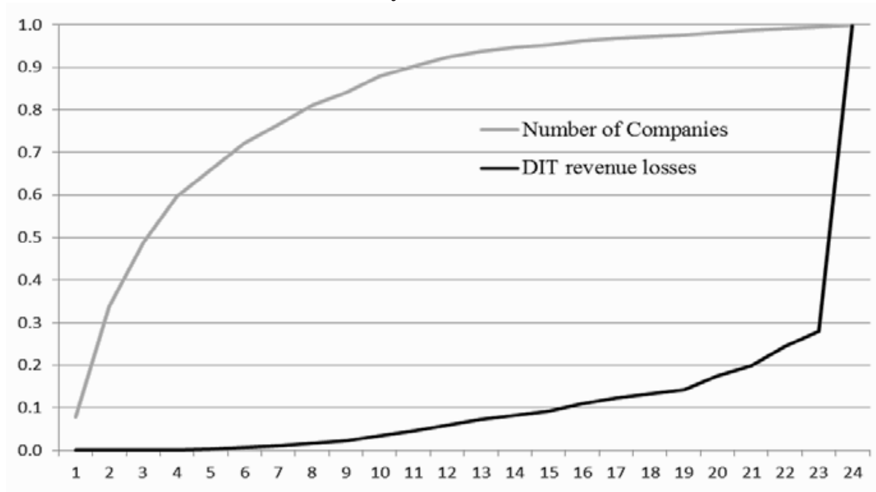
Figure A1. DIT use over the period 1998-2003



Notes: 1997 is not available. "DIT companies" are the companies benefiting from the DIT (number of companies with taxable income partly taxed at 19%); "Total companies" are those companies that filled the tax return; "Companies paying CIT" are the companies with a positive tax bill.
Source: own elaborations from data MEF-Dipartimento delle Finanze.

[100] Law 133 of 1999 and Law 383 of 2001.
[101] Data for 1997 are not available.

Figure A2. Number of taxpayers and DIT revenue losses, cumulative distributions by income class (year 2000)

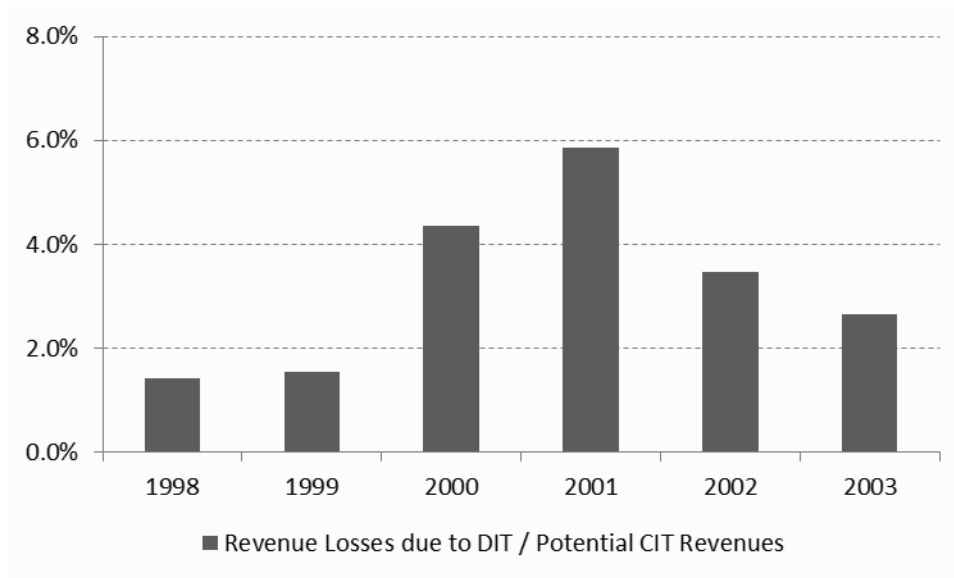


Source: own elaborations from data MEF-Dipartimento delle Finanze

Figure A3 presents data about the actual revenue losses due to the DIT.[102] These are computed by multiplying the yearly notional return to equity and the difference between the standard corporate income tax rate and the reduced 19% rate. The revenue losses are then compared with the actual CIT revenues augmented with the revenue losses themselves ("potential CIT revenues"). Non surprisingly, the figure shows an increasing budgetary cost until 2001, consistent with the incremental feature of the DIT reform. In 2001 the revenue losses peaked at about EUR 2 bn, corresponding to about 6% of CIT revenues. As for 2002, the budgetary cost decreased as a consequence of the gradual dismantlment of the reform by the new government appointed in 2001. The strong increases in 2000 and 2001 were partly due to the application of the "Super DIT" in 2000 and 2001 - when the equity net increments were multiplied by 1.2 and 1.4 respectively - and to the extension of the DIT also to the financial sector.

[102] The revenue losses also take into account the effect of the limit on the effective average tax rate applied until 2001.

Figure A3. The revenue losses due to DIT in terms of corporate income tax revenues



Notes: 1997 is not available. "Potential CIT revenues" are equal to the sum of the actual corporate income tax revenues and the CIT revenues losses due to DIT.
Source: own elaborations from data MEF-Dipartimento delle Finanze.

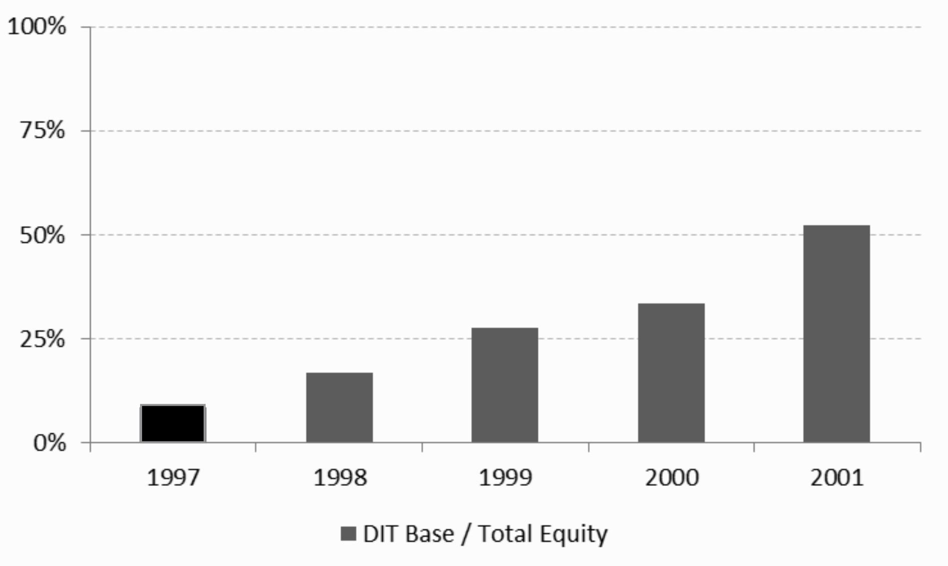
One crucial aspect of the Italian DIT was the fact that the benefit was granted only to the equity accumulated from a certain point in time. In the long run, however, new equity would have replaced old equity and therefore in principle the tax benefit would have been granted to all the equity. Tax return data provide some interesting information about the "speed of convergence" towards the long-run system for taxpayers benefiting from the DIT. Indeed, in order to get the tax benefit taxpayers were required to provide information about the total equity since this variable was taken into account in the computation of the DIT base.

Figure A4 shows the ratio between net increments of equity and total equity[103]. The ratio – built out of aggregate data – is likely to be biased downwards for two reasons. First, the two sets of taxpayers declaring the DIT base and the total equity do not match perfectly - with the first set being always smaller than the second one. Second, the diffusion of the reform over time induces a downward bias because for the new companies benefiting from the DIT the ratio was lower. In spite of these problems, the ratio can be considered informative since the matching of the two sets of taxpayers declaring the DIT base and the total equity is very high (approximatly equal to 93%) and – with regard to the second point - as figure A1 shows there was not such a steep increase in the use of the DIT over time. Moroever, note that the existence of alternative temporary tax benefits for investments in tangible assets funded (partially) through equity gave an upward push to the ratio since 1999. Again focusing on the period until 2001, the figure shows that after five years the DIT base was approximatly equal to 50% of the "long-run" DIT base for companies benefiting from the reform. Simulation

[103] The figures for 2000 and 2001 take into account the effect of the multipliers applied in those years.

evidence based on tax return data of the effects of the ACE shown in ISTAT (2014) is broadly consistent with the actual figures of the DIT period: after five years - in 2015 - the ratio ACE base/total equity for about 95% of companies benefiting from the ACE will be between 40% and 50%.[104]

Figure A4. The speed of convergence of the incremental DIT towards the full DIT



Notes: 1997 is not available and it has been assumed that the figure is half the one in 1998. The figures for 2000 and 2001 take into account the effect of the multipliers applied in those years. "DIT base" is the difference between the (sum of the) increments and the (sum of the) decrements as for September 1996, corrected for the cases where this difference is higher than equity (see par. 3.2). "Total Equity" was reported by taxpayers filling the DIT section of the tax return.
Source: own elaborations from data MEF-Dipartimento delle Finanze.

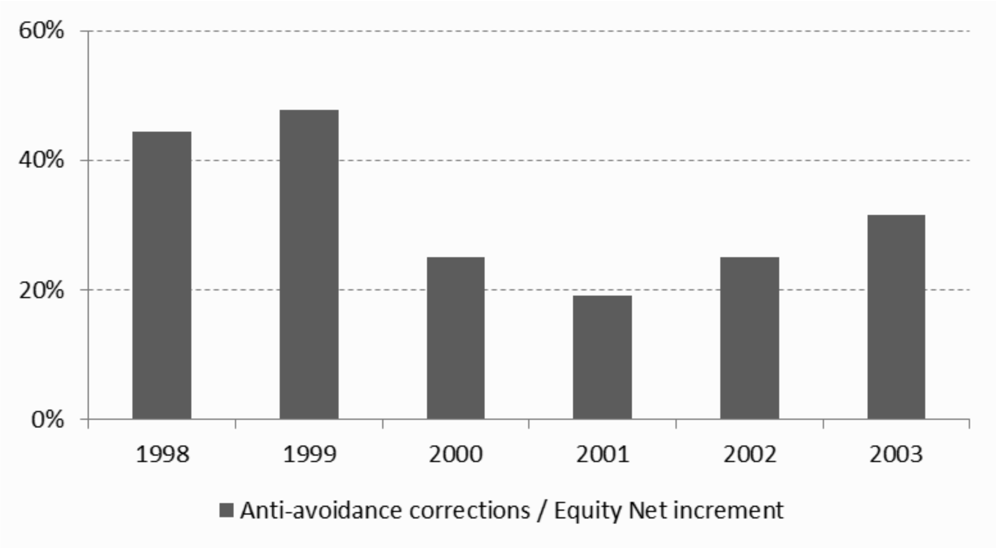
One important part of the DIT legislation dealt with the anti-abuse provisions aimed at avoiding a "cascading" of DIT deductions within group of companies and at promoting investments deemed desiderable from an economic point of view. Figure A5 provides information about the quantitative importance of these anti-abuse rules in limiting the gross revenue losses of the DIT.

While in the first years the anti-avoidance provisions were in the aggregate very important - accounting for more than 40% of the total equity increments - their relevance decreased over time. To some extent, this was due to the multipliers applied to the incremental DIT base in 2000 and 2001 that made the anti-avoidance provisions relatively less important. This was probably due also to the fact that, in the beginning, the DIT could have been used relatively more by larger companies and companies belonging to groups, for which the anti-avoidance constraints were more likely to be binding. In 2001 the correction of the equity's net increment was about 20%: given EUR 100 of DIT base stemming from the net increments, EUR 20 were disallowed for the computation of the notional return to equity subject to 19%. Probably, the diffusion over time of the tax benefit to smaller

[104] See ISTAT (2014: 235-236).

companies - for which these anti-abuse rules are arguably less important - would have further reduced in the aggregate the importance of the anti-abuse provisions in limiting the static revenue losses of the DIT. On the other hand, the predominance of large companies and companies belonging to groups both in terms of overall CIT revenues and DIT revenue losses makes in principle the anti-abuse provisions relevant in the assessment of the budgetary cost of the DIT (and the ACE) even in the long-run.

Figure A5. The anti-avoidance corrections under the DIT regime, 1998-2003



Notes: 1997 is not available. "Equity net increment" is the difference between equity increments and decrements as for September 1996 (corrected for the cases where this difference is higher than equity; see par. 3.2).
Source: own elaborations from data MEF-Dipartimento delle Finanze.

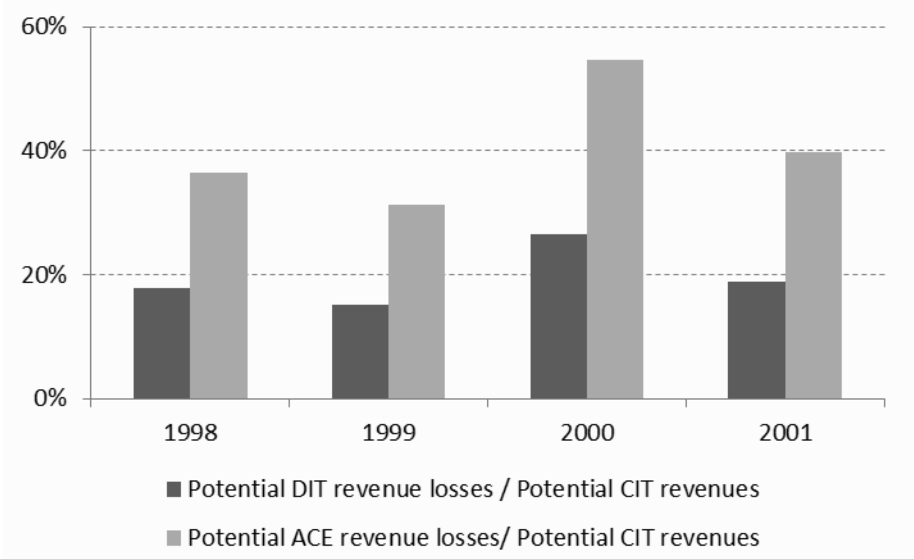
The availability of data regarding total equity for companies benefiting from the DIT makes possible to provide some figures of the revenue losses of a DIT system without its incremental feature. It also makes possible to have a broad idea of the revenue losses of a hypothetical textbook ACE system in the DIT period, i.e. a system where the notional return to the full stock of equity was exempt altogether rather than being taxed at 19%. It is important to highlight that the following figures can be interpreted as long-run revenue losses of the incremental DIT or ACE regimes only in a loose sense, because they do not take into account the dynamic impact of the additional investments which are required in incremental DIT and ACE regimes in order to move from the short to the long-run and in order to generate corporate income tax losses. Figure A6 presents the results.

Focusing only on the companies benefiting from the reform, the hypothetical budgetary cost of a "full stock" DIT is at the peak in 2000 about 27% of corporate tax revenues. A hypothetical ACE regime could have been more costly, with a revenue loss that would have been equal at the peak in

2000 to about 55%. The strong increase of the revenue cost in 2000 is mostly due to the upward jump with respect to 1999 of the declared total equity, from about EUR 364 bn to EUR 600 bn.[105]

Bringing into the picture the companies that did not benefit from the DIT would further increase the hypothetical long-run budgetaty cost of the DIT reform. However, a mere projection of the equity-based estimates obtained for companies benefiting from the DIT to the rest of the companies would likely result in a overstatement of the static revenue cost for at least three reasons.

Figure A6. Long-run DIT (and ACE) revenue losses of the icremental DIT (ACE) (only companies benefiting from the DIT)



Notes: The potential DIT (ACE) revenue losses are computed considering the total equity reported by taxpayers that used the DIT. The potential CIT revenues are equal to the sum of the actual CIT revenues and the actual revenue losses due to the DIT.
Source: own elaborations from data MEF-Dipartimento delle Finanze

First, one has to consider the case of loss-making companies. This is a relevant phenomenon: for instance, over the DIT period about 50% of all companies had no taxable profit and hence did not pay the corporate income tax. Since the tax bill of these companies is nil, in principle there are no short-run DIT revenue losses associated with their equity. On the one hand, it is true that at the individual level companies belonging to this class could cumulate unused DIT allowances that have the potential to reduce their tax bill once the company makes profit. On the other hand, in the long-run, among other things revenue losses associated to the class of loss-making companies will depend on the joint probability of moving out of the loss state and having a positive tax base. The persistence of the loss-making state, the influence of the tax loss carry-forward in limiting the probability of a positive tax base, and the fact that unused DIT allowance would be lost if a company goes bankrupt,

[105] EUR 130 bn is the increment of total equity declared by the financial sector between 1999 and 2000.

all induce to claim that the potential DIT revenue loss associated with loss-making companies would have been limited.[106] [107]

Second, as regards the companies with a positive tax base that did not benefit from the DIT (about 2/3 of all the companies paying taxes), the static revenue losses crucially depend on the reasons why they did not exploit the new possibility to reduce their tax bill.[108] [109] One reason may have to do with the novelty of the reform. This is consistent with the fact that the DIT was mainly used by large companies, arguably having better tax practitioners and consultants and with a easier and less costly access to information. If this were the main reason for the low take-off of the DIT, one would expect an increasing use of the DIT over time. As a result, it would be legitimate to extend our results for companies benefiting from the DIT to the other companies. However, there is another explanation for the low use of the DIT that has to do with the relationship between capital and property structures. The importance of family-based firms in Italy is well-known.[110] These firms are less prone to retain profits - since these profits feed directly families' consumption and savings - and less prone to raise external equity, for the fear of loosing control over the company. Under this explanation, extending our estimates for companies benefiting from the DIT to the other companies would overstate the static revenue losses of the DIT system because the choice of not using the DIT (or using it not to a full extent) would have persisted even in the long-run.

Third, as we have previously shown the distributions of corporate tax bills and of the revenue losses associated with the DIT are highly asymmetrical: large companies constitute the bulk of CIT revenues and DIT revenue losses. This implies that the residual revenues at stake that can be lost as a result of the diffisuon of the DIT use are not as important as the revenues that would have been directly reduced by the DIT for companies benefiting from the reform from the beginning.

More generally, in the evaluation of the static long-run impact of the DIT (ACE) reform of figure A6 we have used the actual yearly notional rates. Arguably, in the DIT period these rates were

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[106] In his computations of the revenue losses associated to the ACE regime for a set of countries including Italy, De Mooij (2012) assumes a reduction of 50% of the equity-based ACE revenue losses associated to loss-making companies.

[107] According to the simulation evidence shown in ISTAT (2014: 235), in the long-run the percentage of companies benefiting from the ACE should be about 50%.

[108] See Santoro (2004) for a discussion of the reasons why companies did not benefit from the DIT.

[109] The DIT regime was not applied by all the companies increasing equity in the DIT period also because as for 1999 alternative temporary tax reductions were available for investments in new tangible assets (Law 133 of 1999 and Law 383 of 2001). Given an investment in tangible assets (partially) funded by equity, a company could benefit for some years of these alternative tax reductions and benefit afterwards of the DIT for the equity increase associated to the investment. However, it is likely that the companies benefiting from the alternative temporary regime filled the box of the tax return containing the DIT data. In fact, the same instructions of the tax return allowed companies to provide DIT data even if they just envisioned the possibility of benefiting from the DIT in the future. Consistently with this guess, over the period 1998-2003 the total number of taxpayers providing information about their total equity was always larger than the number of taxpayers benefiting effectively from the DIT allowance in terms of reduced tax bills.

[110] This is a persistent feature of the Italian economy. According to data for 2011, more than 70% of all Italian businesses are family-based (see ISTAT, 2013a: 65-67).

generous, being larger than the long-term government bond yield that - according to the literature[111] - represents an important reference point for setting the notional rate.[112] Moreover, the choice of the notional rates (as well as the Super DIT mechanism) in the DIT period has to be seen in conjunction with the fact that the system was incremental. Therefore, for a long-run estimate of the budgetary cost of the DIT it seems more reasonable using as a starting point a notional rate in line with the government bond rates.

For the above reasons, making inference even simply about the long-run static budgetary cost of an incremental DIT (or an ACE) is a difficult task. In order to shed light on the relative importance of different elements, it is possible to undertake a simple sensitivity analysis.

Table A1 presents the tentative results of such a sensitivity analysis based on tax return data for the year 2000, where we have considered the effect of different assumptions regarding the corporate income tax rate, the notional interest rate, the role of anti-avoidance corrections, and the revenue losses for companies that did not benefit from the DIT. As regards the corporate income tax rate, we have considered both the actual statutory corporate tax rate in force in 2000 (37%) and the present corporate tax rate (27.5%). This can be justified considering that in terms of GDP the corporate tax revenues in the DIT period were similar to the one in recent years (between 2.0% and 2.5% of GDP) and considering that - given the same amount of CIT revenues – a deduction of 1 Euro against the corporate income will entail a lower cost, the lower is the CIT rate. With regard to the notional rate, we have considered both the rate applied in 2000 (7%) and a rate in line with the 10-years government bond rate in those years (5%). As for the anti-avoidance provisions, we have evaluated the possibility that in the aggregate the anti-abuse rules will reduce the equity-based ACE base by an arbitrary 20%. Finally, as regards the ACE revenue losses for firms not benefiting from the DIT, we have considered two scenario, H1 and H2. H1 is the most pessimistic in terms of the long-run budgetary cost of the reform. Under this scenario, we assume a deduction against corporate income of the notional income associated with all the equity of the 5% largest taxpayers (so both the ones benefiting from the DIT and the other[113]) and a loss of all the corporate tax revenues associated with the 95% smallest taxpayers. Under H2, we assume: (i) a deduction against corporate income of the notional income associated with all the equity of the 5% largest taxpayers declaring the total equity in the tax form for the application of DIT; (ii) a deduction against corporate income of ½ of the notional return to equity for the 5% largest taxpayers who did not declare the total equity for the application of

[111] See Fane (1987) and Bond and Devereux (1995, 2003).

[112] In the DIT period the 10-year Government Benchmark bond yields in Italy were the following: 1997: 6.8; 1998: 4.9; 1999: 4.8; 2000: 5.6; 2001: 5.2; 2002: 5.0; 2003: 4.2 (Source: ECB, Financial market data).

[113] For the companies belonging to the group of the 5% largest entities, that did not benefit from the DIT and that therefore did not declare their total equity, we assume that total equity is equal to the average of the income class to which they belong. This assumption is not applied to companies belonging to the group of the 95% smallest taxpayers, since for them the low take-off of the DIT – and therefore the lack of information for total equity - makes the average less informative regarding their total equity.

the DIT; and (iii) a loss of ½ of all corporate tax revenues of the 95% smallest taxpayers. H2 expresses the idea that there can be structural reasons limiting the full use of the DIT by companies that did not use it after 4-5 years since its inception.

The main result from table A1 is the large uncertainty surrounding the estimate of the static long-run impact of an ACE system. The revenue losses indeed vary from 24.2% to 63.4% of corporate tax revenues, depending on the different assumptions.

Table A1. The static long-run revenue loss of an ACE system, sensitivity analysis (year 2000)

Scenario	CIT rate (%)	ACE notional rate (%)	Anti-avoidance 20% Correction (a)	Hypothesis regarding revenue losses (b)	Revenue losses	
					EUR bn.	As a % of CIT revenues (c)
1	37	7	NO	H1	19.0	63.4%
2	37	5	NO	H1	14.7	49.0%
3	37	7	YES	H1	15.2	50.7%
4	37	5	YES	H1	11.7	39.2%
5	37	7	NO	H2	15.3	51.3%
6	37	5	NO	H2	11.5	38.5%
7	37	7	YES	H2	12.3	41.0%
8	37	5	YES	H2	9.2	30.8%
9	27.5	5	NO	H1	11.9	39.8%
10	27.5	5	YES	H1	9.5	31.9%
11	27.5	5	NO	H2	9.1	30.3%
12	27.5	5	YES	H2	7.2	24.2%

Notes:
(a) Anti-avoidance correction is assumed to be 20% of total equity;
(b) Under H1, it is assumed a deduction against corporate income of the notional income associated with all the equity of the 5% largest taxpayers and a loss of all the corporate tax revenues of the 95% smallest taxpayers; under H2, it is assumed: - a deduction against corporate income of the notional income associated with all the equity of the 5% largest taxpayers declaring the total equity in the tax form for the application of DIT; - a deduction against corporate income of ½ of the notional return to equity for the 5% largest taxpayers who did not declare the total equity for the application of the DIT; and a loss of ½ of all corporate tax revenues of the 95% smallest taxpayers;
(c) The corporate tax revenues are augmented with the actual revenue losses due to DIT in 2000.
Source: own elaborations from data MEF-Dipartimento delle Finanze.

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