Implementing corporate tax cuts at the expense of neutrality? A legal and optimisation analysis of fundamental reform in practice

Kayis-Kumar, Ann

UNSW Australia

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Implementing corporate tax cuts at the expense of neutrality? A legal and optimisation analysis of fundamental reform in practice

Ann Kayis-Kumar*

Abstract

Governments and policy-makers are increasingly faced with the trade-off of protecting their tax revenue bases while maintaining their international competitiveness. This is exemplified by the international trend of jurisdictions reducing their headline corporate tax rates, which is often justified on the basis that these cuts will lead to improved efficiency and integrity outcomes. This article explores whether it is more efficient to implement corporate tax cuts or an alternative reform such as an economic rent tax which may better achieve the tax policy goals of efficiency and integrity.

In doing so, this article bridges the gap between applied legal research, economic theory and practical optimisation modelling. Specifically, this research presents a simulation analysis of the behavioural responses of a tax-minimising multinational enterprise to both existing and proposed tax regimes and compares efficiency and integrity outcomes upon implementing corporate tax cuts. This is complemented by a legal comparative analysis featuring case studies of an economic rent tax; namely, the Allowance for Corporate Equity (ACE) as introduced in Belgium and Italy. These case studies will focus on the political hurdles to implementing and sustaining these reforms, which will highlight key lessons learnt from the implementation of the ACE in practice.

Key words: Tax neutrality, Corporate tax reform, Allowance for Corporate Equity

* BCom(Finance)/LLB(Hons) (UNSW), PhD (UNSW), School of Taxation and Business Law (incorporating Atax), UNSW Australia, Solicitor of the Supreme Court of New South Wales, Federal Court and High Court of Australia, a.kayis@unsw.edu.au. The author is grateful to her PhD supervisors, Professor Neil Warren and Professor John Taylor, for their invaluable insights and to Professor Miranda Stewart and Professor Reuven Avi-Yonah for their helpful comments.

1. BACKGROUND

The advent of the global digital economy has heightened opportunities for aggressive tax planning by multinational enterprises (MNEs) and has spurred harmful tax competition between governments. Governments and policy-makers are increasingly faced with the trade-off of increased international competitiveness to encourage investment from MNEs with the need to protect their tax revenue bases.

Recently, prominent members of the G20 have signalled their intention to eventually reduce their headline corporate tax rates; this is exemplified by the US and the UK, who are both now targeting reductions to their corporate income tax (CIT) rates; to possibly as low as 15 per cent.[1]

There is a perception that cross-border anti-avoidance rules such as thin capitalisation and transfer pricing rules effectively protect the tax revenue base from aggressive tax planning behaviour in the cross-border intercompany context. However, the ability of these rules to restrict tax deductibility is often conflated with their ability to attain efficiency and integrity outcomes. Previous research by the author has demonstrated that these rules do not eliminate tax-induced distortions, which would be required to attain efficiency. On the other hand, economic rent taxation is generally considered in the economic literature to be an appropriate mechanism to eliminate tax-induced distortions.

Given the tension commonly experienced by policy-makers between lowering the headline rate of CIT as opposed to implementing economic rent taxes, this article compares the efficiency and integrity outcomes between these two reform approaches.

Academics and commentators such as De Mooij and Ederveen highlight the normative value in the argument for 'a neutral tax treatment of incomes earned in different legal forms'.[2] Previous research by the author has examined the conceptual case for why it might be appropriate and feasible to restrict the tax deductibility of cross-border intercompany interest, dividends, royalties and lease payments given their mobility and fungibility.[3] As such, it is arguably preferable for MNEs to be subject to economic rent taxation, as is attained through reform proposals such as the allowance for corporate equity (ACE), in this context.

Even though the cross-border issue cannot be isolated from the rest of the tax system,[4] the focus of this article is the cross-border dimension because distortions in tax laws are highly problematic in this context. For example, the phenomenon of thin capitalisation arises from the decisions of revenue authorities to create a tax-induced cross-border debt

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[1] See, for example, Mike Lane, 'Autumn Statement 2016: The Impact on Multinationals' (2016) 1333 *Tax Journal* 10.

[2] Ruud A de Mooij and Sjef Ederveen, 'Corporate Tax Elasticities: A Reader's Guide to Empirical Findings' (2008) 24(4) *Oxford Review of Economic Policy* 680, 696.

[3] Ann Kayis-Kumar, 'International Tax Planning by Multinationals: Simulating a Tax-Minimising Intercompany Response to the OECD's Recommendation on BEPS Action 4' (2016) 31(2) *Australian Tax Forum* 363; Ann Kayis-Kumar, 'Taxing Cross-Border Intercompany Transactions: Are Financing Activities Fungible?' (2015) 30(3) *Australian Tax Forum* 627.

[4] Harry Grubert and Rosanne Altshuler, 'Corporate Taxes in the World Economy: Reforming the Taxation of Cross-Border Income' in John Diamond and George Zodrow (eds), *Fundamental Tax Reform: Issues, Choices, and Implications* (MIT Press, 2008) 319, 319-321.

bias, which presents opportunities for tax base erosion.[5] The tax-induced cross-border debt bias incentivises behavioural responses to take advantage of the international classification differences between debt and equity,[6] and distorts MNEs' corporate financing decisions.

2. AGGRESSIVE TAX PLANNING AND THE NEUTRAL TAX TREATMENT OF INCOMES

A central thread in the literature concerning MNEs' aggressive tax planning behaviour is that the opportunities for these behaviours are created by governments and policy-makers themselves through the design of tax rules.[7] This article assumes that where a tax-minimising MNE has the opportunity to benefit from tax planning given the design of tax rules (including transfer pricing, thin capitalisation and debt/equity rules), it will adjust its behaviour accordingly. This could involve, for example, maximising overall deductions in higher-tax jurisdictions to minimise the group-wide tax liability and, in turn, the MNE's overall net profit after tax. This highlights that there is an urgent imperative for tax rules impacting cross-border intercompany transactions to be designed such that efficiency and integrity outcomes are both prioritised and attained.

Accordingly, section 2.1 below highlights the policy challenge presented by tax-minimising behaviours by MNEs and how international tax competition may have the unintended consequence of encouraging aggressive tax planning. This is followed by an analysis in section 2.2 of the challenge presented by the existence of economic inefficiencies – or tax-induced distortions – in the tax treatment of cross-border intercompany activities, which of themselves give rise to tax planning opportunities for MNEs. Finally, section 2.3 observes that, given the trade-off between international competitiveness and tax revenue base protection, it is arguably more efficient – and, in turn, more effective – to instead align the tax treatment of cross-border intercompany transactions to eliminate the incentive for tax planning behaviours.

2.1 Profit shifting: aggressive tax planning and international tax competition

Despite criticisms of aggressive tax planning behaviour by MNEs, the philosophical framework of free market capitalism appears to justify this behaviour.[8] This is exemplified in the 'efficiency' argument, which is oft-cited by MNEs as a justification for utilising tax havens on the basis that tax-minimising behaviour can encourage greater investment by MNEs. While the economic literature espouses that the profit motive ensures that resources are being allocated efficiently, this reasoning hinges on the simplifying theoretical assumptions that firms operate in free and competitive markets. Yet, these underlying theoretical assumptions do not exist in the current global financial system. Only the largest MNEs are best positioned to exploit differences in

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[5] Ann Kayis-Kumar, 'Thin Capitalisation Rules: A Second-Best Solution to the Cross-Border Debt Bias?' (2015) 30(2) *Australian Tax Forum* 299; see also Dean Hanlon, 'Thin Capitalisation Legislation and the Australia/United States Double Tax Convention: Can They Work Together?' (2000) 3(1) *Journal of Australian Taxation* 4.

[6] Mihir A Desai, Testimony before the US Senate Committee on Finance and the US House Committee on Ways and Means (13 July 2011) 4, available at: http://www.finance.senate.gov/imo/media/doc/DesaiTestimonyFinal.pdf.

[7] Philipp Genschel and Peter Schwarz, 'Tax Competition: A Literature Review' (2011) 9(2) *Socio-Economic Review* 339, 364.

[8] The profit motive provides the justification for internalising benefits while externalising costs, which includes the minimisation of taxation.

jurisdictions' tax systems to minimise their tax liability. This process of tax arbitrage does not improve productivity nor does it constitute 'true' innovation.[9]

Using intercompany transactions, MNEs can shift intercompany expenses to, and intercompany income from, source countries to minimise tax payable with relative ease.[10] De Mooij and Ederveen[11] note the empirical evidence on profit shifting yielding the largest corporate tax base elasticities. However, the scale of the problem is considered to be even more significant with academics including Seto positing that '… an unknown but presumably significant number of companies use aggressive intercompany pricing to reduce their overall tax liabilities and get away with doing so'.[12]

Given the significance afforded to the design of rules countering aggressive tax planning behaviour by MNEs, it is necessary to consider the impacts of changing these rules, as detailed in the empirical literature. Keen has observed that, even though both multilateral cooperation and unilateral anti-avoidance rules may reduce MNEs' propensity to engage in profit shifting, this will likely also increase competitive pressure on foreign direct investments. So, if MNEs in high-tax jurisdictions are rendered unable to engage in profit shifting there may be a greater incidence of relocating production to other jurisdictions.[13] This is tested through the simulation analysis conducted in section 4 below.

2.2 Base erosion: tax neutrality theories and cross-border intercompany transactions

A central premise of this article is that wherever possible tax-induced reductions in economic efficiency ought to be minimised. This is in line with the tax neutrality principle, which states that tax systems should strive to be neutral such that decisions are made on their economic merits, rather than for tax reasons. This is particularly problematic because economic inefficiencies – or tax-induced distortions – in the tax treatment of cross-border intercompany activities give rise to tax planning opportunities for MNEs. As such, there is an urgent imperative for a tax treatment of cross-border intercompany transactions with a strong conceptual basis.

However, the international tax literature often does not consider the fungibility of passive or highly mobile income in the cross-border intercompany context. This translates to a lack of funding neutrality in the design and evaluation of cross-border tax rules.

This is arguably at odds with a central goal of economics and the economic analysis of law; namely, efficiency optimisation.[14] Admittedly, when applied in the tax law context,

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[9] Michael Porter and Mark Kramer, 'Creating Shared Value' (2011) 89(1/2) *Harvard Business Review* 62.
[10] The OECD has noted "...the relative ease with which MNE groups can allocate capital to lowly taxed minimal functional entities (MFEs). This capital can then be invested in assets used within the MNE group, creating base eroding payments to these MFEs": see further OECD, *Public Discussion Draft, BEPS Actions 8, 9 and 10: Discussion Draft on Revisions to Chapter I of the Transfer Pricing Guidelines (Including Risk, Recharacterisation and Special Measures), 1 December 2014 – 6 February 2015* (OECD, 2014) 38. For completeness, residence issues are beyond the scope of this article.
[11] De Mooij and Ederveen, above n 2, 683-684.
[12] Theodore P Seto, 'Four Principles of Optimal Tax System Design' (Legal Studies Paper No 2008-36, Loyola Law School, March 2013) 5-6.
[13] Genschel and Schwarz, above n 7, 364.
[14] See, for example, Alex Raskolnikov, 'Accepting the Limits of Tax Law and Economics' (2013) 98(3) *Cornell Law Review* 523, 551; Lena Hiort af Ornäs Leijon, 'Tax policy, economic efficiency and the principle of neutrality from a legal and economic perspective' (Uppsala Faculty of Law, Working Paper 2015:2) 17.

the unique complexity of the tax optimisation problem renders the task of designing the optimal tax system immensely difficult compared to other areas of law such as competition policy, corporate law and securities regulation.[15] There are three key challenges that give rise to this unique complexity.[16] First, taxation inevitably gives rise to inefficiencies and some taxpayers' inefficient responses to taxation cannot be fully deterred by legal rules (the 'undeterrability problem'). Second, it is impossible to fully resolve both the undeterrability problem and the 'redistribution problem'; however, it is in theory possible to reach a compromise which balances the benefits of redistribution with the inevitable costs of tax-induced distortions. Third, there exists a fundamental disconnect between actual tax regimes and the design of optimal tax rules.

These issues are dramatically amplified in the cross-border setting, where the existing system is 'so far from the optimal income tax baseline that the effort to reference it would be decidedly doomed'.[17] Raskolnikov notes that there is no optimal rule for allocating interest expense by MNEs, nor is there an optimal theory of international taxation, corporate tax or capital income taxation.[18] This sentiment is echoed by Weisbach, who makes the following two critiques: '[s]tandard optimal tax models do not even have firms … Neutralities, the standard tool of international tax policy, are not helpful'.[19]

In this context, this article makes two additional critiques. First, the literature does not consider 'optimised' behavioural responses by MNEs in the limited context of tax minimisation; nor does it anticipate how policy-makers could respond to those behavioural responses. Second, the tax neutrality theories that have been introduced as criteria for achieving economic efficiency at the international level have limited usefulness in the context of designing tax rules targeting base erosion by MNEs.[20]

As such, it is meaningful to consider economic efficiency benchmark criteria for company taxation and apply those principles to the cross-border setting. Specifically, Warren provides a synthesis of neutrality criteria for company taxation, as extracted in

Fig. 1 below.[21]

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15 Raskolnikov, above n 14, 524-525.
16 Ibid 525-527.
17 Ibid 551.
18 Ibid.
19 David A Weisbach, 'The Use of Neutralities in International Tax Policy' (University of Chicago Coase-Sandor Institute for Law & Economics Research Paper No 697, 18 August 2014) 14-19.
20 Grubert and Altshuler, above n 4, 331-333; see further Michael J Graetz, 'Taxing International Income: Inadequate Principles, Outdated Concepts, and Unsatisfactory Policies' (2001) 54(3) *Tax Law Review* 261, 280-282, who observes that increasing worldwide welfare does not necessarily increase national welfare in the case of international tax policy, thereby supporting national welfare, rather than worldwide efficiency, as a policy goal; see also Daniel Shaviro, 'Why Worldwide Welfare as a Normative Standard in US Tax Policy?' (2007) 60(3) *Tax Law Review* 155, 164-165, who contends that, even if worldwide welfare improves national welfare by encouraging cooperative behaviour, unobserved defections should improve national welfare.
21 Neil Warren, 'Modelling the Economic Outcomes from TVM: Is It Practical and Meaningful?' in Yuri Grbich and Neil Warren (eds), *Tax Value Method Consultative Conference, 23-24 July 2001* (Australian Tax Research Foundation, 2001), 197-215.

Fig. 1: Economic Efficiency Benchmark Criteria

Economic efficiency	
Criteria	***Description***
Funding neutrality	*Does not distort the decision on how to fund a business (eg debt vs equity)*
Risk neutrality	*Permits risk offset and adjustment*
Business structure neutrality	*Incorporated and unincorporated companies treated similarly*
Net income neutrality	*Neutral in its treatment of different income and expenditure sources and asset and liability types*
Payout neutrality	*Neutral between dividends and retentions; and neutral in its impact on financial innovation (bifurcation vs aggregation)*
Taxpayer neutrality	*Incentives to different groups should result in the same outcome for individuals, whatever structure is invested in*
Capital import/export neutrality	*Benefit to resident and offshore investors should be similar*
Institutional neutrality	*No prejudice or favour by government to sectors or groups (and if so, any market intervention should be efficiently targeted, transparent and costed)*

Source: Warren (2001)

Cross-referencing Warren's conceptual framework with Raskolnikov's earlier critique, one key aspect that remains missing from the international neutrality debate is that of 'funding neutrality' (listed as criterion 1 in the above

Fig. 1).[22]

In addition to the challenges presented by the complexity of cross-border intercompany transactions, these funding options are often economically equivalent (or 'fungible') but are subject to disparate tax treatments. For example, the cost of debt financing is deductible whereas the cost of equity financing is not deductible. This is particularly problematic because such non-neutral tax treatments present opportunities for base erosion. However, fundamental reforms that aim to equalise the tax treatment across debt and equity financing do exist; for example, the Allowance for Corporate Equity

[22] Funding neutrality is arguably a subset of 'capital ownership neutrality', which has a broad focus on '… the welfare impact of the importance of ownership to productivity in the design of international tax systems. This emphasis on ownership effects is consistent with the modern theory of foreign direct investment, which is based on a transaction-cost approach under which the market advantages of multinational firms arise from the benefits of joint ownership of assets across locations': James R Hines, Jr, 'Reconsidering the Taxation of Foreign Income' (2009) 62(2) *Tax Law Review* 269, 279.

(ACE) as introduced in Belgium and Italy, which is the focus of the legal analysis[23] in section 3 and the modelling in section **Error! Reference source not found.**.

2.3 Implementing corporate tax cuts at the expense of funding neutrality: the trade-off between international competitiveness and base protection

Governments and policy-makers are increasingly faced with the trade-off of increased international competitiveness to encourage investment from MNEs with the need to protect their tax revenue bases. Tax competition is often considered a force that drives down corporate income taxes across countries in a 'race to the bottom'.[24] This is a product of reactionary policies and the outcome of a reduced revenue take is reduced scope for fiscal stimulus due to tightened budget constraints.

The central argument of this article is that tax-induced behavioural distortions (or inefficiencies) create profound problems for governments and policy-makers[25] and so should not be overlooked when enacting tax reforms such as corporate tax cuts.

The Organisation for Economic Co-operation and Development (OECD) is currently considering best practice approaches to designing rules to prevent base erosion and profit shifting (BEPS) by MNEs. However, the OECD makes a distinction between combating BEPS and reducing distortions between the tax treatment of various methods of financing.[26]

Yet, it is the decision of the revenue authorities to create distortions which actually results in these tax base erosion opportunities.[27] Rather than merely addressing the behavioural symptoms of these distortions, such as debt shifting via excessive interest deductions,[28] it is arguably more effective to instead align the tax treatment of cross-border intercompany transactions to eliminate the tax incentive for said tax planning behaviour. Accordingly, the behaviourally distortive effects of tax rules should be of primary concern regardless of one's normative perspective and policy-makers concerned about tax planning need to consider the efficiency of the lines they draw. For example, while reducing the headline CIT rate may in turn reduce the magnitude of allowable debt deductions, eliminating the debt distortion requires more than reductions to corporate tax rates.

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[23] The rationale grounding this analysis is that tax policy developments can be better understood when legal analysis is synthesised with economic and political science analysis, thereby providing a more nuanced understanding of the underlying purpose, scope and timing of reforms.

[24] Marta Božina Beroš and Marin Beroš, 'Fairness through Regulation? Reflections on a Cosmopolitan Approach to Global Finance' (2013) 7(1) *The Journal of Philosophical Economics* 2; Genschel and Schwarz, above n 7.

[25] Distortive effects are not merely inefficient; they also affect fairness and administrability: Seto, above n 12, 3.

[26] It is clear that both the OECD's BEPS project and the thin capitalisation rules' *raisons d'être* are primarily concerned with protecting national tax revenue bases. 'In discussing fixed ratio rules it is important to note that in some cases these tests were also introduced to play a wider tax policy role rather than with a focus on combating base erosion and profit shifting. For example, a number of countries introduced such rules specifically to reduce existing distortions between the tax treatment of debt and equity': OECD, *BEPS Action 4: Interest Deductions and Other Financial Payments: Public Discussion Draft, 18 December 2014-6 February 2015* (OECD, 2014) 47.

[27] Hanlon, above n 5.

[28] Previous work by the author conceptualises the cross-border debt bias as the 'disease' and the behavioural response of MNEs of engaging in debt shifting or thin capitalisation as merely the 'symptom': Kayis-Kumar, 'Thin Capitalisation Rules', above n 5.

Indeed, an ACE such as that introduced in Belgium and Italy presents a more robust approach to eliminating the debt distortion. These reforms are examined in turn in section 3 below.

3. Case studies of ACE-variants: to implement corporate tax cuts or introduce an ACE-variant?

As highlighted in the previous section, there is a marked tension commonly experienced by policy-makers between either lowering the CIT rate (coupled with base broadening measures) or implementing an economic rent tax such as the ACE (which is often associated with a reduction in tax revenue).[29] Further, leading commentators observe that, where a jurisdiction has repealed its ACE-variant, this was not brought about by any fundamental problem with the theoretical ACE,[30] nor any technical flaw in the ACE system.[31] Rather, the abolition of these ACE-variants was simply in line with the dominant trend of reducing headline corporate income tax rates in the context of 'tax-rate cut-cum-base broadening'.[32]

There has generally been bipartisan support for a target of lowering CIT rates in the face of increasing international tax competition, largely prompted by the forces of globalisation as countries pursue highly mobile capital investments made by large MNEs.[33]

However, the theory of capital income taxation in a small open economy, which concludes that the tax incidence for small open economies is shifted entirely to the domestic factors of production such as labour and land, assumes perfect capital mobility.[34]

It remains unclear who ultimately bears the burden of corporate taxes, with Menezes observing that:[35]

> The argument for a reduction in the corporate tax rate was predicated in part in the simple theory of tax incidence expounded above. There are, however, several reasons why labour might not bear most of the burden of corporate taxes. Indeed, the issue of who effectively bears the burden of corporate income tax is yet to be resolved.

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[29] Daniel Shaviro, 'Should Corporate Tax Reform Efforts Emphasize an "Allowance for Corporate Equity" (ACE)?', 3; available at: http://www.law.nyu.edu/sites/default/files/ECM_PRO_068214.pdf.
[30] Alexander D Klemm, 'Allowances for Corporate Equity in Practice' (IMF Working Paper WP/06/259, November 2006).
[31] Michael Keen and John King, 'The Croatian Profit Tax: An ACE in Practice' (2002) 23(3) *Fiscal Studies* 401, 417.
[32] Ibid.
[33] John Diamond, George Zodrow and Robert Carroll, 'Macroeconomic Effects of Lower Corporate Income Tax Rates Recently Enacted Abroad' (Ernst & Young Report, Prepared for the Reforming America's Taxes Equitably (RATE) Coalition, March 2013) 18.
[34] Theoretically, it is also suboptimal for a small open economy faced with perfect capital mobility to levy a source-based tax on the normal return to capital: Peter Birch Sørensen and Shane Matthew Johnson, 'Taxing Capital Income: Options for Reform in Australia' in Melbourne Institute (ed), *Australia's Future Tax and Transfer Policy Conference, Proceedings of a Conference* (Melbourne Institute of Applied Economic and Social Research, 2010) 179, 187.
[35] Flavio M Menezes, 'The Business Tax Reform Agenda' (2012) 31(1) *Economic Papers* 3, 4.

While this article does not purport to enter this debate, given the global trend of lowering CIT rates it is instructive to briefly earmark the six reasons set out below against said reform.[36]

First, the home bias persists, capital markets are not perfect[37] and a CIT rate reduction in the host country only transfers tax revenues to countries that tax their MNEs on their worldwide income but allow foreign tax credits for the corporate taxes paid at source, thereby failing to change both the effective tax burden and the investment behaviour of MNEs.[38]

Second, the empirical evidence on the actual corporate tax burden borne by wages remains unclear, with the literature strongly questioning the theoretical suggestion that the tax incidence for small open economies is shifted entirely to the domestic factors of production such as labour and land. Further, reducing the CIT rate does not result in immediate flow-on benefits to workers in the form of extra capital, higher productivity and wages.[39]

Third, since the CIT is levied on both normal returns to capital and rents, a reduction in the headline CIT rate will necessarily reduce the tax on economic rents; thereby reducing the tax on investment that would occur in any event.[40]

Fourth, reducing the CIT rate will disproportionately benefit larger, more profitable firms, with no impact on already loss-making firms.

Fifth, the emerging literature focusing on the real economic effects of CIT rate changes shows that while CIT rate increases uniformly reduce employment and income, CIT rate reductions are ineffectual in boosting economic activity [41] except when implemented during recessions.[42]

Sixth, further reductions to the CIT rate will widen the wedge between the highest personal income tax bracket and the CIT rate, implying that further reductions in the CIT rate should not be made in isolation from changes in personal income tax because this presents a further deviation from business structure neutrality.[43]

These factors create considerable uncertainty regarding the benefits of CIT reductions.

Further, it is noteworthy that the CIT system has the highest efficiency costs among Australia's federal taxes, with the efficiency losses resulting from taxing normal returns

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[36] Further, it is arguable that simply lowering the headline CIT rate does not constitute tax reform *per se*.
[37] Kalok Chan, Vicentiu Covrig and Lilian Ng, 'What Determines the Domestic Bias and Foreign Bias? Evidence from Mutual Fund Equity Allocations Worldwide' (2005) 60(3) *Journal of Finance* 1495; Menezes, above n 35, 4.
[38] So, in order to protect the domestic corporate tax base, many countries implement thin capitalisation rules, transfer pricing rules, controlled foreign corporation (CFC) rules and additional anti-avoidance tax rules: OECD, *Tax Policy Reform and Economic Growth*, OECD Tax Policy Studies No 20 (OECD Publishing, 2010) 54.
[39] Menezes, above n 35, 4, and references cited therein.
[40] Menezes, above n 35, 4.
[41] Alexander Ljungqvist and Michael Smolyansky, 'To Cut or Not to Cut? On the Impact of Corporate Taxes on Employment and Income' (NBER Working Paper No 20753, National Bureau of Economic Research, December 2014) 31-32, and references cited therein.
[42] Ibid 8.
[43] Menezes, above n 35, 5.

likely to be above 40 per cent.[44] On the other hand, taxing only economic rents results in no deadweight loss. However, as observed by Ganghof, '[t]he result was not only neoliberalism by surprise[[45]] but also neoliberalism by default …interactions of economic, partisan and institutional factors may lock countries into rather inefficient tax structures, at least temporarily'.[46] Accordingly, it is imperative to increase the efficiency of business taxation, where possible.

In this context, there are many reform proposals addressing the business taxation distortion, including the ACE, Cash flow tax, Comprehensive Business Income Tax (CBIT), dual income tax (DIT) and Residence-based shareholder tax.[47] Specifically, this article's focus is the distortion between debt and equity financing. Of various fundamental reform proposals only the ACE has been experimented with in practice, so this is the focus of this article.

The ACE maintains the current deductibility of actual interest payments and adds a notional return on equity to be deductible against corporate profits, at the risk-free nominal[48] interest rate.[49]

The ACE has garnered substantial support from leading academics since its theoretical inception and is experiencing increased interest from policy-makers internationally.[50] In terms of its historical development, the ACE originated in the 1970s with the basic economic idea contained in the report of the Meade Committee,[51] which proposed alternatives to the UK tax system. This was followed by research published by leading commentators Boadway and Bruce,[52] and was further elaborated in detail by the IFS Capital Taxes Group,[53] and Devereux and Freeman.[54]

The literature has predominantly focused on economic concepts, despite recognising the relevance and importance of law, accountancy and politics.[55] Further, the ACE literature

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[44] Australia's Future Tax System Review Panel (Dr Ken Henry, chair), *Australia's Future Tax System: Report to the Treasurer* (December 2009) (Henry Review); Menezes, above n 35, 5.

[45] Susan C Stokes, *Mandates and Democracy: Neoliberalism by Surprise in Latin America* (Cambridge University Press, 2001).

[46] Steffen Ganghof, 'The Politics of Tax Structure' (MPIfG Working Paper 06/1, Max Planck Institute for the Study of Societies, January 2006) 26-27.

[47] See Peter B Sørensen, 'Can Capital Income Taxes Survive? And Should They?' (2007) 53(2) *CESifo Economic Studies* 172, 218, Table 4.

[48] That is, 'calculated by reference to a normal commercial rate of interest, fixed by the government': see further, Malcolm Gammie, 'Corporate Tax Harmonization, An "ACE" Proposal: Harmonizing European Corporate Taxation through an Allowance for Corporate Equity' (1991) 31(8) *European Taxation* 238.

[49] Ruud A de Mooij and Michael P Devereux, 'An Applied Analysis of ACE and CBIT Reforms in the EU' (2011) 18(1) *International Tax and Public Finance* 93, 96.

[50] Christian Keuschnigg, 'The Design of Capital Income Taxation: Reflections on the Mirrlees Review' (2011) 32(3) *Fiscal Studies* 437; Gammie, above n 48; Michael P Devereux and Peter B Sørensen, 'The Corporate Income Tax: International Trends and Options for Fundamental Reform' (European Commission Economic Paper 264, December 2006).

[51] Institute for Fiscal Studies, *The Structure and Reform of Direct Taxation: Report of a Committee chaired by Professor J E Meade* (George Allen & Unwin, 1978).

[52] Robin Boadway and Neil Bruce, 'A General Proposition on the Design of a Neutral Business Tax' (1984) 24(2) *Journal of Public Economics* 231.

[53] Institute for Fiscal Studies, *Equity for Companies: A Corporation Tax for the 1990s*, Fourth report of the IFS Capital Taxes Group, Commentary No 26 (Chameleon Press, 1991), available at: http://www.ifs.org.uk/comms/comm26.pdf.

[54] Michael Devereux and Harold Freeman, 'A General Neutral Profits Tax' (1991) 12(3) *Fiscal Studies* 1.

[55] Alan Auerbach, Michael Devereux and Helen Simpson, 'Taxing Corporate Income', in Stuart Adam, Tim Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles and James M Poterba (eds), *Dimensions of Tax Design: The Mirrlees Review, Vol 1* (Oxford

currently has a corporate tax neutrality focus grounded in the economics paradigm. Importantly, ACE-based reforms have great potential from an anti-avoidance law perspective, which is especially pertinent for international company tax purposes.[56] Further, simulations by de Mooij and Devereux show that even with the inclusion of tax havens, which halve the positive welfare effect of implementing a revenue-neutral ACE in high-tax countries, a European ACE still raises welfare. De Mooij and Devereux observe that the benefits of a more efficient tax system in terms of both investment and financial structure significantly outweigh the negative spillovers *vis-à-vis* profit shifting.[57]

The original objectives and perceived benefits of the ACE include encouraging domestic investment and employment, and achieving tax neutrality by granting tax relief for equity financing. In principle, many leading commentators, policy-makers and corporations support the ACE. However, implementing and sustaining fundamental reform of the corporate income tax system is difficult. Accordingly, it is necessary to consider how an ACE eventuates in practice. De Mooij and Devereux observe that the Belgian and Italian ACE-variants are the closest to the theoretical ACE.[58] As such, these two jurisdictions are the focus of this article.

3.1 Applied literature analysing ACE-variants

The majority of the English-language ACE literature provides a distinct focus on economic modelling rather than engaging in any legal analysis.[59] One exception is an OECD report providing a descriptive exposition with detailed reference to particular amendments and developments, yet there remains a gap in relation to a critical analysis geared at suggesting design improvements for similar reforms in the future.[60]

A recent contribution in this area has been the comparative analysis of the Belgian and Italian ACE-variants by Zangari,[61] who presents the case for why the design of the Italian ACE-variant allows for a more robust reform than the Belgian NID; namely, due to its anti-avoidance framework. However, Zangari provides a comparison between the technical aspects of these ACE-variants in practice, rather than in-depth comparative legal analysis. Accordingly, there remains scope in the literature to provide a more thorough comparative analysis, with an emphasis on legislative drafting and the underlying policy intentions for amendments over time.

University Press, 2010) 837; see also Keuschnigg, above n 50; see further, Graeme Cooper, 'Implementing an Allowance for Corporate Equity' (2012) 27(2) *Australian Tax Forum* 241.

[56] S Bond, 'Company Tax Issues' (Presentation delivered to The Institute for Fiscal Studies, 2006).

[57] De Mooij and Devereux, above n 49, 115.

[58] Ruud de Mooij and Michael Devereux, 'Alternative Systems of Business Tax in Europe: An Applied Analysis of ACE and CBIT Reforms' (European Union Taxation Papers, Working Paper No 17, 2009).

[59] Alessandra Staderini, 'Tax Reforms to Unfluence Corporate Financial Policy: The Case of the Italian Business Tax Reform of 1997-98' (Banca D'Italia Working Paper No 423, November 2001); Silvia Giannini, 'Le riforme italiane nella tassazione di impresa negli anni '90 in una prospettiva europea' (Paper presented at Seminario di Economia Pubblica Istituto di Economia e Finanza, Università Cattolica del Sacro Cuore, 22 February 2001); Filippo Oropallo and Valentino Parisi, 'Will Italy's Tax Reform Reduce The Corporate Tax Burden? A Microsimulation Analysis' (SIEP Working Paper No 403, May 2005); Daniela Federici and Valentino Parisi, 'Corporate Taxation and Exports' (MPRA Paper No 41012, 3 September 2012).

[60] OECD, *Action Plan on Base Erosion and Profit Shifting* (OECD Publishing, 2013).

[61] Ernesto Zangari, 'Addressing the Debt Bias: A Comparison between the Belgian and the Italian ACE Systems' (European Commission Taxation Papers, Working Paper No 44, July 2014) 49.

As such, sections 3.2 and 3.3 below analyse the Belgian and Italian ACE-variant experiences, with a focus on the political hurdles to implementing and sustaining these reforms.

3.2 Belgium's ACE-variant

The Belgian corporate tax system is considered a classical double taxation system, modified by an exemption for dividends from qualifying participations held by corporate shareholders and a reduced rate for dividends from participations held by individual shareholders. [62] Tax practitioners have long considered Belgium an interesting jurisdiction for various tax-planning and structuring purposes.[63]

Even prior to the introduction of the Notional Interest Deduction (NID),[64] dividends could be received nearly tax-free, interest paid on loans taken out to acquire shares was tax-deductible and capital gains on shares were generally tax-exempt. [65] The NID (otherwise known as the '*Intérêts notionnels et déduction fiscales pour capital à risque*', "*Notionele Interestaftrek*" or 'Capital Risk Deduction') was introduced in 2005 to encourage equity financing following two key pressures; first, pressure from the European Commission to abandon the Belgian coordination centre regime,[66] and second, pressure resulting from the expansion of the European Union to countries with lower corporate tax rates, such as Cyprus, Latvia, Lithuania, and Hungary, which emphasised the need for Belgium to strengthen its position on the international tax map.

3.2.1 The Belgian NID: political hurdles to implementation

When initially introduced in Belgium, leading commentators observed that Belgium's NID reform was very close to the pure version of the ACE,[67] with the Parliamentary focus appearing to be the tax neutrality property of the NID to overcome the debt-equity distortion. [68] The originating explanatory notes [69] detail the political, philosophical,

[62] Jan Široký, 'There are several factors, which influence the actual range of the corporate tax: the relation between the personal income tax and the corporate income tax' (2006) 5, available at: http://kvf.vse.cz/storage/1168944278_sb_siroky.pdf.
[63] Howard Liebman, 'International Tax Planning: Belgium Is Taking Steps to Enhance Its Attractiveness', Jones Day Commentary (July 2005), available at: http://www.jonesday.com/international-tax-planning-belgium-is-taking-steps-to-enhance-its-attractiveness-07-26-2005/.
[64] *Loi du 22 juin 2005 instaurant une déduction fiscale pour capital à risque – Wet tot invoering van een belastingaftrek voor risicokapitaal van 22 juni 2005* [Law introducing an allowance for corporate equity of 22 June 2005], published in Belgian Official Gazette of 30 June 2005, p 30077 (*Notionele Interestaftrek, Belgisch Staatsblad* / Loi instaurant une déduction fiscal pour capital à risqué, Moniteur Belge).
[65] Liebman, above n 63.
[66] Marc Quaghebeur, 'Belgium Targets Risk Capital Deduction Abuses' (2007) 48 *Tax Notes International* 627. Belgium introduced this regime in 1982, which aimed at providing MNEs with a tax-effective vehicle to coordinate and centralise their management and financial services in so-called 'coordination centres'.
[67] Marcel Gérard, 'Belgium Moves to Dual Allowance for Corporate Equity' (2006) 46(4) *European Taxation* 156; André Decoster, Marcel Gerard and Christian Valenduc, 'A Decade of Tax Cuts', in Etienne de Callataÿ and Françoise Thys-Clément (eds), *The Return of the Deficit: Public Finance in Belgium over 2000-2010* (Leuven University Press, 2012) 95, 111-112.
[68] Decoster, Gerard and Valenduc, above n 67, 112.
[69] *Loi du 22 juin 2005 instaurant une déduction fiscale pour capital à risque – Wet tot invoering van een belastingaftrek voor risicokapitaal van 22 juni 2005* (Belgium) [Law introducing an allowance for corporate equity of 22 June 2005], 30 June 2005, 30077.

economic and tax policy rationales for implementing the Belgium ACE-variant, and the anticipated impact of this reform.

However, it is also important to recognise that Belgium did not have wide political support for the NID reform; indeed, the green and socialist parties opposed the NID, which was criticised as being used as 'a weapon in the election campaign of 2004'.[70] Further, the rationale of highlighting the urgency of the NID in light of the dramatic decline in investment in Belgium was criticised in the parliamentary debates as a rushed and underhanded political strategy.[71] Despite ongoing political debate for over one year, which resulted in limitations to the NID, there were only two parliamentary sittings, which was criticised as resulting in insufficient debate on the broader reform of corporate income tax.[72] This was considered especially problematic by opposition parties, who made comparisons to the reform processes in neighbouring countries such as the Netherlands.[73]

Nonetheless, the parliamentary debates indicate that a large majority of the committee subscribed to the philosophy underpinning the reform, with the proposal receiving generally positive feedback and unconditional approval by the VLD (the Flemish liberal party).[74] However, the design parameters had mixed reviews; some parliamentarians believing the design was too generous and others considering it inadequate. Finance Minister Didier Reynders interpreted this as indicating that the Bill was balanced,[75] and earmarked an evaluation period to identify areas for improvement.[76] At its inception, this Bill was touted as a pioneer in tackling tax discrimination between debt and equity finance.[77]

However, there has been much scepticism about the real motivation for implementing this reform, as observed by the National Bank of Belgium:[78]

> The memorandum put to the Parliament stresses the neutrality property of the reform because it enables corporate income tax to overcome the well-known debt equity bias. It ends by indicating that the reform also provides an alternative for financial companies using the coordination centre regime. Most would argue – rightly – that of the two motivations the second was the more important and the neutrality properties are more a consequence of the reform than its main policy motivation.

When it was introduced, Finance Minister Didier Reynders and Prime Minister Guy Verhofstadt organised roadshows in Asia, the United States, and India to promote the NID and explain that the deduction reduced the corporate income tax rate from 33.99 per cent to about 26 per cent.[79] They were accompanied by representatives of some

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[70] *Chambre des Représentants de Belgique, Compte Rendu Intégral avec Compte Rendu Analytique Traduit des Interventions – Belgische Kamer van Volksvertegenwoordigers, Integraal Verslag met Vertaald Beknopt Verslag van de Toespraken* (Belgium) [House of Representatives, Full Report with a Summary Record of Translated Interventions], 22 June 2005, 59 [15.02].
[71] Ibid [15.12].
[72] Ibid 59-60 [15.12].
[73] Ibid 61 [15.20].
[74] Ibid 53 [15.01].
[75] Ibid 53-54 [15.01].
[76] Ibid 58 [15.01].
[77] Ibid 58-59 [15.01].
[78] Decoster, Gerard and Valenduc, above n 67, 112.
[79] Quaghebeur, above n 66.

banks and tax advisory firms who explained how the NID could be used for group finance companies and treasury centres, for acquisition structures, and for post-acquisition restructuring.[80] Subsequently, many MNEs moved their corporate treasury centres to Belgium.[81]

It is important to recognise the context to these statements. Even though the official tax rate has fallen over 7 per cent in three years, the effective tax rate at the time was over 21 per cent – higher than the EU average, as noted in the explanatory materials.[82] The extrinsic materials also indicate that parliamentarians made reference to the Forbes suggestion that Belgium had the third highest marginal tax rate in the world; cited as support for the proposition that Belgium's tax rates were high and corporate investment and economic stimulus was in need of bolstering (taking into account considerations of economics and taxation). Further, the parliamentary debates refer to the high unemployment rate as an economic problem with the NID presented as a strategy to lowering corporate tax and giving the Belgian economy a new impetus.[83]

Budgetary issues generally tend to pose one of the most significant political hurdles to implementing fundamental tax reform. Even though the budgetary cost of the NID was a significant issue, the government mentioned that it expected a EUR 58 million return on the NID reform.[84] This was despite the revenue cost of EUR 566 million, which was largely accepted by parliament, with budgetary compensation measures and savings provisions (including abolishing corporate tax credits and opting-in to the NID at the expense of opting-out of 'investment reserve' provisions) amounting to EUR 400 million. The extrinsic materials make reference to the following 10-point benefits of the NID, anticipating that the NID would: (i) incentivise equity finance thereby encouraging investment; (ii) facilitate employment; (iii) stimulate financing; (iv) reduce bankruptcy risk thereby improving credit ratings; (v) anchor investments in Belgium thereby reducing relocation risk; (vi) stimulate the establishment of new companies; (vii) ensure consistency with EU guidelines thereby providing the necessary legal certainty; (viii) facilitate an attractive investment climate; (ix) improve Belgium's competitiveness,[85] and (x) facilitate private corporations' investment in construction and property through equity finance.[86]

The parliamentary debates highlight the criticisms in the design of the NID. For example, one of the major obstacles to the implementation of the NID was contained in Article 9, which barred companies from distributing the portion of their profits that corresponds to the NID deduction by way of a dividend unless they retained an amount equal to the amount of the NID deduction for a period of at least four years. In the extrinsic materials prepared in June 2005, one of the key anti-abuse mechanisms contained in Article 9 was reduced to three years following concerns that a period of four years would make equity less appealing than debt finance and could undermine the effectiveness of the NID. Even though the design was the subject of passionate political debate[87] and was ultimately a

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[80] Quaghebeur, above n 66.
[81] Marc Quaghebeur, 'Belgium Removes Obstacle to Risk Capital Deduction', *Worldwide Tax Daily* 229-3 (30 November 2005).
[82] *Chambre des Représentants de Belgique*, above n 70, 62 [15.20].
[83] Ibid 60-61 [15.19]-[15.20].
[84] Ibid 53 [15.01].
[85] Ibid 55 [15.02].
[86] Ibid 59 [15.02].
[87] Parliamentary reports show dialogue such as 'Mr. Bogaert, I suggest that you take the sequel to the market stand, because you are very good at selling apples that look like pears'. Ibid 57 [15.02].

compromise, the parliament considered that Article 9 should be further relaxed in subsequent legislative amendments.[88] Nonetheless, this provision was amended even before the commencement date of the NID, with Belgian Prime Minister Guy Verhofstadt delivering a public announcement on 17 November 2005 that this obstacle to the NID would be lifted.[89] While this revision arguably aligned the NID more closely to its theoretical underpinnings in the ACE, it is largely an administrative issue rather than one of tax policy design which encourages the use of equity financing at the risk of making the system more vulnerable to abuse from aggressive tax planning. The key criticism was that the NID was largely agreed to in principle, but the provisions and administrative aspects were unnecessary to the point that it was criticised as largely missing its objectives in practice.[90] This highlights how translating ACE theory into practice through a robust tax reform design is one of its most challenging aspects, as anticipated by the wider ACE literature[91] and as experienced by jurisdictions in the past.[92]

Separately, there was political opposition to the limited scope of the NID, which some parliamentarians argued ought to be extended to personal income tax.[93] This reflects the ACE literature, which anticipates that one key challenge in designing and implementing ACE reform is that it does not operate as a backstop to the personal income tax system.[94] Even though leading commentators have suggested that tax neutrality cannot be achieved unless there is a personal-level ACE,[95] the domestic shareholder position is less relevant in a small, open economy where the marginal investor is likely to be a foreign investor.[96] While it is difficult to pinpoint the non-resident investor as the marginal investor, it is plausible for a small, open economy like Belgium.[97]

3.2.2 The Belgian NID: subsequent amendments and economic, political and administrative issues

The NID has been continually amended by the Belgian parliament since its introduction in 2005, culminating in the continued reduction in the NID rate and the abolition of carry-forwards further limiting the scope of the NID. These two legislative changes have taken the NID further away from its original legislative purpose and underlying ACE principles. First, reducing the tax deduction provided for equity financing risks eliminating the neutrality properties of the ACE and simply providing a sweetener for

88 Ibid 69 [15.52].
89 Quaghebeur, above n 81.
90 *Chambre des Représentants de Belgique*, above n 70, 64 [15.20].
91 John Isaac, 'A Comment on the Viability of the Allowance for Corporate Equity' (1997) 18(3) *Fiscal Studies* 303.
92 The ACE-variant adopted in Brazil is more akin to a system of dividend deductibility; see further, Klemm, above n 30, 24.
93 *Chambre des Représentants de Belgique*, above n 70, 58 [15.11].
94 OECD, *Reforming Corporate Income Tax*, OECD Observer: Policy Brief (2008).
95 OECD, *Fundamental Reform of Corporate Income Tax*, OECD Tax Policy Studies No 16 (OECD Publishing, 2007) 88, 139.
96 Business Tax Working Group (Chris Jordan, chair), *Discussion Paper* (August 2012) 21, available at: https://static.treasury.gov.au/uploads/sites/1/2017/06/BTWG_discussion_paper_2012.pdf.
97 Belgium has been recently described as a small, open economy by economists; see, for example, Philip Du Caju, François Rycx and Ilan Tojerow, 'Wage Structure Effects of International Trade in a Small Open Economy: The Case of Belgium' (2012) 148(2) *Review of World Economics* 297.

equity financing;[98] and second, abolishing carry-forwards exacerbates the asymmetric treatment of profits and losses.[99]

However, when considering any subsequent legislative amendments to the NID reform, a holistic understanding of the political landscape is an imperative starting point. From 2007, Belgium was confronted by an ongoing political crisis at federal level.[100] During that time, the outgoing conservative/socialist government continued to handle current affairs, and in October 2007, following much political pressure, decided to conduct an investigation into alleged abuses by Belgian companies and Belgian banks of the NID.[101]

A key political issue in practice is that the NID is thought to benefit the larger MNEs more so than small and medium enterprises (SMEs). This is because the larger MNEs are able to put substantial amounts of equity capital into their treasury arms or internal finance companies thereby eroding their corporate tax base.[102] This challenges whether the NID is genuinely beneficial for the domestic economy or whether it presents a tax break for the most profitable MNEs who are able to tax plan and bypass anti-avoidance rules and maintain very low effective tax rates. However, leading practitioners and economists observe that the NID also benefit SMEs by incentivising business capitalisation and thereby protecting businesses during the global financial crisis (GFC).[103] Further, it is arguable that this is an obvious feature of the NID which is why it was such an attractive investment reform to begin with. Some legal practitioners have observed that 'the purpose of introducing the notional interest deduction was just to make Belgium fiscally attractive to foreign investors and to offer a credible and competitive alternative for the coordination centres whose system was condemned by the European authorities'.[104] Indeed, it is arguable that since the NID resulted in substantial investment by both local and overseas MNEs, it thereby encouraged a larger capital base, which ensured that those companies were well-positioned to withstand the GFC because of their capital buffers.

Nonetheless, the pressure from lobby groups and media sentiment that MNEs were unfairly advantaged by the NID remains substantial. By way of background, SMEs and MNEs currently have an average tax rate of approximately 34 per cent and 5 per cent respectively. This has resulted in industry lobby groups such as Le Syndicat des Indépendants & des PME calling for reform to the NID to 'reconcile the existing blatant

[98] The Mirrlees Review recommended that the normal rate of return be utilised; see further, Auerbach, Devereux and Simpson, above n 55; Rachel Griffith, James R Hines, Jr and Peter Birch Sørensen, 'International Capital Taxation', in Stuart Adam, Tim Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles and James M Poterba (eds), *Dimensions of Tax Design: The Mirrlees Review, Vol 1* (Oxford University Press, 2010) 914.
[99] Stephen R Bond and Michael P Devereux, 'On the Design of a Neutral Business Tax under Uncertainty' (1995) 58(1) *Journal of Public Economics* 57.
[100] Marc Hooghe, 'The Political Crisis in Belgium (2007-2011): A Federal System without Federal Loyalty' (2012) 48(1) *Representation* 131.
[101] Quaghebeur, above n 66.
[102] Projet de Loi-Programme, Chambre des Représentants de Belgique, 24 February 2012, Doc 53 2081/001, 95, available at: http://www.lachambre.be/FLWB/pdf/53/2081/53K2081001.pdf.
[103] F-X G [François-Xavier Giot], 'Renforcer le système des intérêts notionnels', *L'avenir* (online) (2 February 2013), available at: http://www.lavenir.net/article/detail.aspx?articleid=DMF20130202_00263523.
[104] N Thémelin, 'The only consequence of the announcement effects of notional interest: the legal uncertainty', Afschrift news report (19 September 2013), available at: http://www.afschrift.be/en/the-only-consequence-of-the-announcement-effects-of-notional-interest-the-legal-uncertainty.html?cmp_id=8&news_id=2325 (accessed 11 December 2013).

discrimination between hundreds of small SMEs that pay 3-4 times more taxes that multinational companies'.[105]

Political concerns regarding aggressive tax planning led to the broadening of Belgium's thin capitalisation rule, which specifically targets inter-company loans with a 5:1 debt to equity ratio limitation. Further, subsequent explanatory notes[106] reveal a link between the reduced scope of the NID and the increased incidence of thin capitalisation rules in Belgium. The relationship between reducing the scope of the ACE-variant and the increased implementation of thin capitalisation rules in Belgium suggests an inversely proportional relationship between these two reforms which has not been addressed in the English-language literature. Future research by the author will explore this aspect in further detail.

This presents arguably the most substantial hurdle to implementing and sustaining ACE-based reform; it is politically very difficult to quantify (and therefore justify) the benefit of the NID and very easy to point to the loss of revenue; for example, in Belgium EUR 3-4 billion is claimed in NID deductions annually. However, in an increasingly globalising economy with capital mobility there is no certainty that regulatory tightening will prevent a loss of revenue. Belgium's thin capitalisation rules are relatively lenient. Even so, many MNEs are now moving out of Belgium as a result of the overall regulatory tightening including *inter alia* tightening thin capitalisation rules, increasing interest withholding tax rates, tightening anti-abuse rules and levying capital gains tax on shares.

So, even though MNEs were subject to relatively low effective tax rates under the NID reform it is conceivable that this at least incentivised businesses to operate from, and develop in, Belgium – this influx in inbound investment may have, in turn, had a multiplier effect.

Nonetheless, the most significant political pressure point and media criticism of Belgium's NID is in relation to its cross-border impact; specifically, the tax avoidance opportunities that it presents for MNEs. However, policy-makers are unable to deliver targeted reform in the cross-border context due to EU anti-discrimination law. This exemplifies the impact that politics has on tax policy developments and practice, most recently culminating in the European Court of Justice determining on 4 July 2013 that the NID rules and in particular the refusal to apply the NID to a foreign permanent establishment's net assets violates the freedom of establishment.[107] It goes without saying that this resulted in the Council of Ministers resolving to amend the legislative provisions within three months of the judgment of the European Court of Justice.

Over the past few years, there has been increased media pressure and pressure from all sides of politics to abolish the NID. This resulted in the NID becoming a 'hot topic' at the 2014 Federal election.[108]

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[105] 'Intérêts notionnels: le SDI plaide pour un système plus "fair-play"', *Le Soir* (online) (5 July 2013), available at: http://www.lesoir.be/275803/article/actualite/fil-info/fil-info-belgique/2013-07-05/interets-notionnels-sdi-plaide-pour-un-systeme-plus-fair-play (author translation) (accessed 11 December 2013).
[106] *La Chambre des représentants de Belgique – Belgische Kamer van volksvertegenwoordigers* [Senate Explanatory Notes], *Project de Loi-Programme du 24 février 2012 – Ontwerp van Programmawet van 24 februari 2012* (nº 53-2081/001), Art 139, 94-98 (Belgium).
[107] *Argenta Spaarbank NV* (C-350/11) case law of the European Court of Justice of 4 July 2013.
[108] Thémelin, above n 104.

Media reports indicated that political parties such as the Christian democratic party *Centre démocrate humaniste* (CDH) promised to abolish the NID as part of their election campaigns:[109]

> The gain for public finances would be reinvested without waiting for the new term in a decrease of 10 per cent of the corporate tax rate, benefiting all, whether SMEs, TPE or independent … This reform that we can carry out without delay … deleting a liberal but also socialist mismanagement … Notional interest for everybody, right now: SME, SOHO and independent.

It goes without saying that the tax policy uncertainty from first implementing, then modifying, phasing down, and now considering the abolition of the NID erodes business confidence. Leading practitioners agree that abolishing the NID will diminish the attractiveness of Belgium as a destination for inbound investment:[110]

> It is therefore true that the notional interest deduction has allowed many companies to reduce their taxable result, but that is precisely the goal that is pursued, with full knowledge of the facts, by the political parties that were at the origin of the construction and of which some criticize the construction heavily today … This constant legal uncertainty incites some companies to seek calmer climes, sometimes by establishing themselves at just a few miles from our borders, this to the detriment of competitiveness, the economy and the image of Belgium on the international stage. This is of course regrettable.

The fate of the Belgian NID remains unclear, with the reform surviving the 2014 Federal election despite talks of its abolition. Meanwhile ACE-variants have been the subject of other European governments' reviews of comprehensive corporate taxation reform options, with Switzerland characterising their potential ACE-variant also as a 'notional interest deduction'.[111]

3.3 Italy's ACE-variants

Prior to 1997, the Italian corporate income tax system, which was designed as a full imputation system,[112] had not been subject to major reforms for nearly three decades. However, by 2004, Italy transitioned from an imputation system to a classical system, with a participation exemption regime introduced to mitigate double taxation of corporate profits.[113] Italy's move away from an imputation system is in line with many other EU member countries.

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[109] 'Le cdH veut supprimer les intérêts notionnels pour baisser sans attendre l'impôt', *Le Vif* (online) (31 August 2013), available at: http://www.levif.be/info/actualite/belgique/le-cdh-veut-supprimer-les-interets-notionnels-pour-baisser-sans-attendre-l-impot/article-4000387901382.htm (author translation).
[110] Thémelin, above n 104.
[111] Regarding Switzerland, see: PwC, 'The impact of Swiss Corporate Tax Reform III (CTR III)' (Position paper of PwC Switzerland, May 2015); the Swiss Federal Council recently removed the NID measure from the CTR III reform package. PwC opines that it ought to be reintroduced in the course of the parliamentary debate. See also, for example, in relation to Sweden: Linklaters, 'Proposed new tax regime for cost of capital' (12 June 2014), available at: http://www.linklaters.com/News/LatestNews/2014/Pages/Proposed-new-tax-regime-cost-capital.aspx.
[112] Lothar Lammersen and Robert Schwager R, *The Effective Tax Burden of Companies in European Regions: An International Comparison*, ZEW Economic Studies Vol 28 (Springer, 2006) 75.
[113] 'Effective for tax periods starting on or after 1 January 2004, Italy applies a classical system of taxation of corporate profits. The former imputation system is abolished and replaced by a 95% participation exemption for corporate shareholders and a 60% exemption for individual shareholders who

Italy provides a unique and interesting case study because it implemented two ACE-variants under two different corporate-shareholder tax systems. The first was the ACE-variant operating in Italy from 1998-2001 termed the Dual Income Tax (Italian DIT). Although inspired by the Nordic DIT, Italy's DIT was very different as it only affected capital income. This has leading commentators describing it as "the most confusing name".[114] Companies were liable to pay the statutory corporate income tax rate on above-normal profits; with the normal return on capital subject to a reduced tax rate fixed by the government; a nominal return on capital calculated by reference to the average interest rate on bonds plus a risk premium.

The second is the new ACE implemented in 2012, termed the *Aiuto alla Crescita Economica* (Italian ACE). Leading commentators observe that the Italian ACE shares the main characteristics of the theoretical ACE.[115] The Italian tax system also has elements of a Comprehensive Business Income Tax (CBIT) due to the local business tax, the IRAP, and also because of the limit to the deductibility of interest, in force since 2008. Accordingly, the Italian corporate income tax system can be characterised as combination of a partial ACE and a partial CBIT, thereby mitigating the debt-equity distortion from both directions.

3.3.1 *The Italian DIT: political hurdles to implementation*

An understanding of Italy's political dynamics is imperative in assessing tax policy reforms. Originating from a context of taxpayer discontent and widespread tax planning and tax evasion, the then centre-left government introduced the Italian DIT as part of its '*Visco*' reforms. The relevant extrinsic materials detail that the Italian DIT was introduced to encourage greater neutrality in corporate financing decisions and facilitate competitiveness by making Italy an attractive investment destination.[116]

3.3.2 *The Italian DIT: subsequent amendments and economic, political and administrative issues*

Revenue neutrality concerns resulted in two key restrictions being placed on the original DIT which reduced its initial effectiveness.[117] First, the opportunity cost of equity finance was not deductible from taxable income, rather it was taxed at a reduced rate; and second, only post-reform equity is considered in the Italian DIT deduction calculations under an incremental approach (similarly to the Belgian NID).

While leading academics observed that over time, the second restriction would not be problematic in the long term, the short-term political repercussions were significant. The Italian DIT was criticised as largely benefiting large and profitable firms, who were more likely to issue new equity, while companies in the South and SMEs were less

hold the participation in a business capacity. Individual shareholders not holding the participation in a business capacity are also entitled to the 60% exemption if they own more than 2% of the voting power or 5% of the capital in listed companies, or more than 20% of the voting power or 25% of the capital in other companies (substantial participation). Otherwise, dividends derived by individuals are subject to a final withholding tax at a rate of 12.5%'; see further, A Uricchio, 'Italian Individual Taxation' (Lecture, University of Bari, 2014) 18; available at: https://nanopdf.com/download/italian-individual-taxation_pdf.

[114] Klemm, above n 30, 7.

[115] Antonella Caiumi, Lorenzo Di Biagio and Marco Rinaldi, 'Corporation Tax in Italy: Evidence from Tax Return Data' (2013), available at: https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=IIPF69&paper_id=460.

[116] Luigi Bernardi, 'Some Issues on the Italian Tax Reforms and the European Tax Environment: Introductory Remarks' (Società Italiana di Economia Pubblica, Working Paper No 457, September 2005).

[117] Staderini, above n 59.

likely to issue equity, despite their higher cost of debt.[118] This runs contrary to ACE theory, which anticipates that the ACE would increase the tax burdens on the most profitable firms and encourage innovation by SMEs by lowering the tax burden on marginal projects.

One of the key legislative amendments that aligned the Italian DIT more closely to the original ACE was the recognition by parliament that both personal and corporate income tax may need to be reformed in tandem to prevent inefficiencies in the type of organisational form. This culminated in the reorganisation of the personal income tax in order to facilitate the capitalisation of companies.

In any event, it is arguable that the technical and social teething process suggests that the transition to the Italian DIT had not been completed, with the Senate stenographic report indicating:[119]

> We have also further strengthened the tools to support new investments, through the extension and improvement of the Visco reforms, and the extension and acceleration of the Dual Income Tax … its complexity both from a technical point of view and from a social impact, required a long preparation … 2000, therefore, should reap the benefits of this long preparatory phase.

The Italian DIT was a restricted version of the standard ACE, subject to 'an excess of changes' [120] and complicated interactions with other taxes, resulting in leading academics observing that this rendered both theoretical and empirical analysis difficult.[121]

It is noteworthy that this reform package was not fully completed due to the change of the government's coalition following elections in 2001, which resulted in the repeal of the Italian DIT in favour of a single-rate corporate tax scheme. Leading commentators have observed that, interestingly, the abolition of the Italian DIT resulted in a higher tax burden for most companies.[122] Further, administrative issues surrounding the continued 'reform of the reform' resulted in a detrimental level of uncertainty which stunted growth, with leading commentators highlighting the 'need for stability and completion of reforms for greater coherence and rationality of the system'.[123]

3.3.3 The Italian ACE: political hurdles to implementation

Parliamentary transcripts provide detailed insights into the political spectrum and background rationales for why the Italian ACE was implemented in the midst of a recession. [124] Specifically, parliamentarians from centrist parties observed in the

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118 Alessandro Santoro, 'Ex-post Evaluation of Tax Reforms: The Case of the Italian Partial Ace', 2005 (unpublished paper, University of Milano-Bicocca).
119 Senate of the Republic of Italy, Senate Public Meeting 702a, Stenographic Report, 3 November 1999, 5-6; available at: http://www.senato.it/japp/bgt/showdoc/frame.jsp?tipodoc=Resaula&leg=13&id=00005402&part=doc_dc-allegatob_rs:1-gentit_dcdddl4236e4237-intervento_giaretta&parse=no&stampa=si&toc=no.
120 P Bosi and M C Guerra, 'Lezione 1: Scienza delle finanze II – CLEP' (2006); available at: https://slideplayer.it/slide/570656/.
121 Klemm, above n 30, 6-9.
122 Oropallo and Parisi, above n 59.
123 Bosi and Guerra, above n 120.
124 International Monetary Fund, 'Italy: 2013 Article IV Consultation' (IMF Country Report No 13/298, September 2013), available at: http://www.imf.org/external/pubs/ft/scr/2013/cr13298.pdf.

explanatory materials that 'today's speakers clearly witness the change in the political phase, which led to the opening of scenarios that seemed unthinkable just a few months ago'.[125] There is specific reference to the fact that the new reforms such as the Italian ACE are 'owing to the heterogeneity of the coalition forces supporting it … the Decree-Law is only justified in light of this particular political and institutional framework'.[126]

This political solidarity culminating in the legislative reform under pressure of a 'very dangerous' economic situation appears to have resulted in a renewed confidence in the Italian financial markets; 'the political stability provided by the new government has had a positive impact on the financial markets with a reduction in the order of 200 points on the yield spread between Italian government bonds and German ones'.[127]

The Italian ACE[128] was introduced to stimulate the capitalisation of companies by reducing tax on income from capital funding risk; reduce the imbalance in the tax treatment between companies that are financed with debt and companies that are financed with equity, thereby strengthening the capital structure of Italian companies; and to encourage, more generally, the growth of the Italian economy.[129]

However, the Italian ACE was not implemented without political opposition. Parliamentarians from opposition parties such as Il Popolo della Libertà (Christian democrat party launched by Silvio Berlusconi) commented that the national and international press were talking about the Italian situation in alarmist terms and observed that 'real growth in Italy is likely to be negative for a long time'.[130] The Italian ACE was also strongly opposed by regionalist minority parties such as Lega Nord Piemont, who believed that this reform would further depress growth, especially in their electoral areas in the North.[131]

As originally drafted, the Italian ACE evokes the Italian DIT in some respects. A substantial improvement on the Italian ACE is that, while the Italian DIT incentivised capitalisation by applying a reduced rate to the portion of profit identified by the notional return on capital, the Italian ACE provides a tax deduction in respect of the notional return on new equity. Further, the Italian ACE was introduced with retroactive effect, or to also apply for the whole of 2011. This ensured the Italian ACE was more closely aligned to the original ACE principles,[132] directly and immediately allowing

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[125] Bulletin of the Legislature, The Referral - Commissions V and VI Finance, Budget and Treasury; Examination and Referral, 8 December 2011, 68; available at: http://translate.googleusercontent.com/translate_c?act=url&depth=1&hl=en&ie=UTF8&prev=_t&rurl=translate.google.com.au&sl=auto&tl=en&u=http://documenti.camera.it/leg16/resoconti/commissioni/bollettini/html/2011/12/08/0506/comunic.htm&usg=ALkJrhgaCPDv5kkzf9KDiH88kWjR8JErnA#data.20111208.com0506.bollettino.sede00010.tit00010 (author translation).
[126] Ibid 5.
[127] Ibid 75.
[128] Decree-Law December 6, 2011, n. 201, containing urgent measures for growth, equity and consolidation of the public finances; Law 214/2011 (22 December 2011) and Decree by the Ministry of Economy and Finance dated 14 March 2012; presented by the Government on 5 December 2011; official gazette 19 March 2012.
[129] Cortellazzo & Soatto, 'Aiuto alla Crescita Economica (ACE): incentivo alla patrimonializzazione delle imprese' (2012) 13(1) *C & D Informa*, available at: http://www.cortellazzo-soatto.it/Approfondimenti/TemieContributi/AiutoallaCrescitaEconomicaACEincentivoall.aspx.
[130] Commissions V and VI Finance, Budget and Treasury, above n 125, 63.
[131] Commissions V and VI Finance, Budget and Treasury, above n 125, 75.
[132] See further, IFS Capital Taxes Group (Malcolm Gammie, chair), 'Equity for Companies: A Corporation Tax for the 1990s' (IFS Commentary No 26, Institute for Fiscal Studies, London, April 1991).

deductions for equity financing and not providing an upper limit to the increases in equity financing.[133] Importantly, the Italian ACE also applies to corporations, individual firms and limited partnerships, the inclusion of which promotes neutrality in organisational form.[134]

3.3.4 *The Italian ACE: subsequent amendments and economic, political and administrative issues*

While the Italian ACE is still in a relatively early stage, commentators praise the reform as a comprehensive package consistent with preventing MNEs from under-capitalising their Italian operations.[135] Indeed, the introduction of the Italian ACE has not led to the modification of Italian rules on the deductibility of interest. Currently interest barrier rules are in place instead of thin capitalisation rules, whereby the limitation of interest deductibility is now based on an operating income test, rather than debt-to-equity ratios.

An equally promising development was announced in October 2013, with the government releasing a list of measures it intends to implement to make Italy more attractive for foreign investors and to strengthen business conditions. Most relevant is Measure 19, which proposes the introduction of the 'super ACE', which targets companies intending to go public. Although there is currently little detail surrounding this proposal, the government has announced that the 'approach would be the same used in the current ACE, which enhances a company's cost-effectiveness and "transparency" after listing'.[136] It will be very interesting to observe whether this reform is implemented and, if so, whether in practice it more closely aligns the Italian ACE to the original ACE principles.

Operationally, the new benefit results in a deduction from the total income of an amount corresponding to the notional return of new equity. This return, for the first three years of application of the rule (2011-2013) is fixed at 3 per cent; however, since 2014 the rate which is determined by decree of the Minister of Economy and Finance had increased to 4.75 per cent for the period ending 31 December 2016. This took into account the average financial returns of public bonds,[137] and there was the option of the notional return being increased by a further percentage point to more closely align with the risk-free nominal return. However, the 10-year Italian government bond yield has declined considerably in the past five years. Currently 10-year Italian government bonds are returning approximately 2 per cent, down from 6.5 per cent in 2012. While this is an improvement on the record low of 1.05 per cent in August 2016, it provides the context for the recent amendments to the Italian ACE. Specifically, the recently enacted *Finance Act 2017*[138] has implemented two key changes; first, it partially amends the legislation to reduce the rate of the notional return to 2.3 per cent for the tax period

[133] Cortellazzo & Soatto, above n 129.
[134] See further Paolo Panteghini, Maria Laura Parisi and Francesca Pighetti, 'Italy's ACE Tax and Its Effect on a Firm's Leverage' (Economics Ejournal Discussion Paper No 2012-31, 2 June 2012), available at: http://www.economics-ejournal.org/economics/discussionpapers/2012-31.
[135] Assonime, 'La disciplina dell'ACE (aiuto alla crescita economica)' (Direct Taxation, Circular No 17, 7 June 2012).
[136] Government of Italy, 'Destinazione Italia: A Plan to Attract Foreign Direct Investment in Italy' (19 September 2013) 18, available at: http://destinazioneitalia.gov.it/wp-content/uploads/2013/10/destinazioneitaliaEnglishVersion.pdf.
[137] Cortellazzo & Soatto, above n 129.
[138] *Gazzetta Ufficiale*, *Bilancio di previsione dello Stato per l'anno finanziario 2017 e bilancio pluriennale per il triennio 2017-2019* (Art. 67, L. 11 dicembre 2016, n. 232) 11 December 2016, 16G00242 (Italy) (Finance Act 2017), available at: http://www.gazzettaufficiale.it/eli/id/2016/12/21/16G00242/sg.

ending on 31 December 2017; and second, it subjects SMEs to the same calculation method as that designed for corporations. The former more closely aligns the Italian ACE rate to the market's risk-free nominal return. The latter ensures neutrality of tax treatment in the context of various legal forms, consistent with the criteria of business structure neutrality. Accordingly, it will be interesting to continue observing the developments to the Italian ACE, particularly since the recent reduction in the Italian ACE rate has coincided with a corporate tax cut from 27.5 per cent to 24 per cent.

This relationship between implementing corporate tax cuts while reducing the scope of policies that aim to eliminate funding neutrality is the focus of the modelling in the next section. Specifically, section **Error! Reference source not found.** adopts a modelling approach to evaluate the extent to which the tax policy goals of efficiency and integrity are effectively attained through the implementation of corporate tax cuts or whether an ACE-variant better achieves these policy goals.

4. OPTIMISATION MODELLING: DO HIGH-TAX JURISDICTIONS BENEFIT FROM CORPORATE TAX CUTS?

This section introduces the model used to simulate a tax-minimising multinational enterprise's behavioural responses. It also expands the literature by simulating cross-border intercompany tax planning strategies in responses to both current and proposed tax laws; in particular, the existence (and abolition) of ACE-variants and implementation of corporate tax cuts.

4.1 Developing the Multinational Tax Planning (MTP) model

In an increasingly globalising economy with capital mobility, a lack of transparency makes it very difficult to observe how an MNE structures its internal affairs in a tax-optimal manner. This gives policy-makers little information on the size and scope of the problem, which in turn makes targeting tax-minimisation techniques even more challenging.[139] Given the importance of tax revenue base protection, this presents a particularly pressing issue for capital importing jurisdictions such as Australia.

However, previous research by the author observes that the challenge presented by this 'invisibility' of cross-border intercompany transactions may be bypassed by conceptualising MNEs' funding decisions as a linear optimisation problem.[140] Specifically, the Multinational Tax Planning model (MTP model) was introduced by the author in previous research and its application to this article is outlined in Annexure 1.[141] The MTP model utilises linear programming to simulate the cross-border intercompany tax planning responses of an MNE to both existing and proposed tax regimes.

[139] Kevin S Markle and Douglas A Shackelford, 'Cross-Country Comparisons of the Effects of Leverage, Intangible Assets, and Tax Havens on Corporate Income Taxes' (2012) 65(3) *Tax Law Review* 415, 417-432.
[140] Kayis-Kumar, 'International Tax Planning by Multinationals', above n 3.
[141] Ibid; see also Ann Kayis-Kumar, 'What's BEPS Got to Do with It? Exploring the Effectiveness of Thin Capitalisation Rules' (2016) 14(2) *eJournal of Tax Research* 359.

Even though the literature suggests that international tax planning decisions can be approximated as an optimisation problem,[142] the use of mathematical optimisation remains largely unexplored in the international tax planning context.

Yet mathematical optimisation is one of the most powerful and widely-used quantitative techniques for making optimal decisions. It is possible to utilise mathematical optimisation in the international tax planning context by formulating the tax minimisation objective (described as the 'objective function', 'Z'), which is determined based on the relationship between the 'decision variables' (denoted as 'x_1', etc below) and the 'cost' to be optimised (whether through minimisation or maximisation, where $c_1, c_2, \dots c_n$ are constants).

This can be expressed as follows:[143]

$$Minimise\ (or\ Maximise): \ Z = c_1x_1 + c_2x_2 + \cdots + c_nx_n$$

Once the objective function has been formulated, the 'constraints' – which set out the limitations – need to be determined. Applied in the context of observing how an MNE may structure its internal affairs in a tax-minimising manner, the linear programming problem expresses the 'objective function' as minimising the total tax payable for the MNE. The 'decision variables' represents the profit in each jurisdiction in which the MNE has a subsidiary and the 'constants' are those respective jurisdictions' corporate income tax rates.

Further, given that the focus of this article is on 'pure' profit shifting by a tax-minimising MNE through intercompany financing, the 'constraints' consist of, first, the flows from intercompany transactions that can increase or decrease the profit figures for each jurisdiction (the 'primary constraints'), and second, the tax laws applicable to the MNE, which can be fine-tuned to particular jurisdictions' specific tax rules (the 'secondary constraints').

Previous work by the author has focused on modelling the tax-minimising behavioural responses of MNEs to changes in interest limitation rules; specifically, thin capitalisation rules and the OECD's recommendation for a fixed ratio rule. This article builds on this previous work by simulating a tax-minimising MNE's behavioural response to introducing an ACE and/or reducing corporate income tax rates, and compares the respective integrity outcomes of both reforms.

4.2 Comparing the impact of corporate tax cuts coupled with reducing the scope of ACE-variants in Belgium and Italy

In an increasingly globalising and internationally competitive business environment, governments are under considerable pressure to lower their headline CIT rates. Belgium and Italy are no exception and there has been much political pressure to lower their CIT

[142] Jaroslav Brada and Tomáš Buus, 'Detection of Possible Tax-Evasive Transfer Pricing in Multinational Enterprises' (2009) 4(2) *European Financial and Accounting Journal* 65; see also M A Vasarhelyi and D Moon, 'Optimizing Tax Allocation among Countries in the Multinational Entity: A Tale of Many Contingencies' (Presentation delivered at the TTN Taxation Seminar New York 2011, Morgan Lewis Bockius LLP, New York, 16 May 2011) 6.
[143] P Sankara Iyer, *Operations Research* (Tata McGraw-Hill, 2008) 3.

headline rates.[144] The justification is that Belgium and Italy will be able to collect more tax revenue by being more regionally and internationally competitive. However, it is important to concede that the economic rent portion of funds may escape tax.

This model's ability to isolate and observe the behaviour of pure profits facilitates an objective assessment of whether, *ceteris paribus*, a reduced CIT headline rate in Belgium or Italy can benefit the taxing jurisdiction, using the change in global Total Tax Payable (TTP) as proxy for this measure. The proxy for MNE tax-aggressiveness is when the Net Profit Before Tax (NPBT) booked in the taxing jurisdiction (either Belgium or Italy) is between 0–20 out of a total of 100 (where 100 is the least tax-aggressive).

For completeness, it is necessary to acknowledge that modelling generally involves a trade-off between realism in scope and simplicity to facilitate meaningful analysis. So, the results extracted below may not necessarily reflect the only behavioural responses suited to each variation. Rather, these figures simply reflect optimised TTP results which are based on simplified assumptions to present an abstraction of reality. This does not make the observations any less meaningful, since the purpose of model building is to learn about relations between variables.

In relation to the Belgian subsidiary, even if the ACE-variant is abolished the TTP falls only marginally. Upon the implementation of CIT rate cuts the Effective Tax Rate (ETR) in the taxing jurisdiction falls only marginally for the most tax-aggressive MNEs to a flat 24.7 per cent.

On the other hand, for the Italian subsidiary even upon abolition of the ACE-variant the tax revenue base is protected by the existence of the Italian fixed ratio rule. In relation to CIT rate cuts, the TTP remains at an ETR of 27.8 per cent for the majority of increments of tax-aggressiveness until a reduction in the Italian CIT rate to 25.1 per cent. From that point onwards there is no longer an additional incentive for profit shifting behaviour and TTP falls to a flat ETR of 25.1 per cent for all levels of tax-aggression, as shown in the below Table 1.

However, an unintended consequence is that for the relatively less tax-aggressive MNEs a reduction in the CIT rate in place of an ACE-variant results in significantly lower TTP, as illustrated in the below Table 1. In other words, if Belgium and Italy were to abolish their ACE-variants and instead synchronise their CIT rate cuts with the US then a reduction in their CIT rates to below 24.7 per cent and 25.1 per cent respectively would simply forfeit tax revenue from economic rents.

Specifically, where these variations are modelled with NPBT increments between 0–100, the ETR ranges between 25.2–32.3 per cent and 27.8–29.5 per cent for Belgium and Italy respectively, thereby simply enabling relatively less tax-aggressive MNEs to further reduce their TTP. This is shown in Table 1 below.

[144] Belgium's headline corporate income tax rate was reduced from 33.99 per cent to 29.58 per cent on 29 December 2017: *Loi portant réforme de l'impôt des sociétés* (Belgium) [Corporate Income Tax Reform Act of 29 December 2017]. Similarly, in Italy, the 2017 Budget approved on 15 October 2016 a reduction to the headline rate from 27.5 per cent to 24 per cent: J Politi, 'Italy's Renzi unveils spending plans in 2017 budget' *Financial Times* (16 October 2016); available at: https://www.ft.com/content/473a99b0-9336-11e6-a80e-bcd69f323a8b.

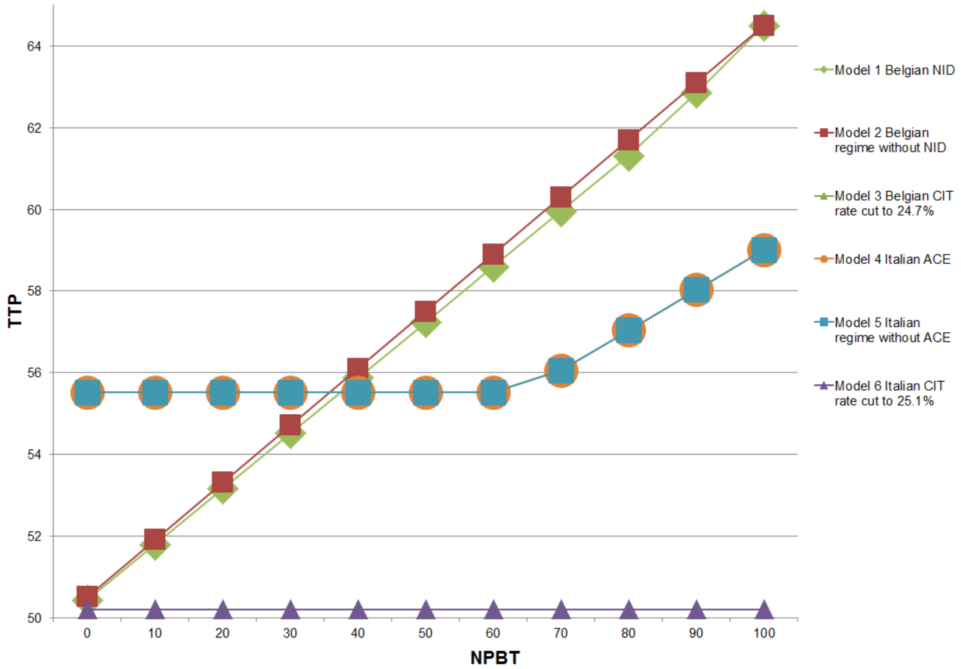
Table 1: Results of Modelling a Headline CIT Rate Cut on the Belgian and Italian Subsidiaries' ETRs

NPBT	*Model 1 Belgian NID*	*Model 2 Belgian regime without NID*	*Model 3 Belgian CIT rate cut to 24.7%*	*Model 4 Italian ACE*	*Model 5 Italian regime without ACE*	*Model 6 Italian CIT rate cut to 25.1%*
0	*25.2%*	*25.3%*	*24.7%*	*27.8%*	*27.8%*	*25.1%*
10	*25.9%*	*26.0%*	*24.7%*	*27.8%*	*27.8%*	*25.1%*
20	*26.6%*	*26.7%*	*24.7%*	*27.8%*	*27.8%*	*25.1%*
30	*27.3%*	*27.4%*	*24.7%*	*27.8%*	*27.8%*	*25.1%*
40	*27.9%*	*28.1%*	*24.7%*	*27.8%*	*27.8%*	*25.1%*
50	*28.6%*	*28.8%*	*24.7%*	*27.8%*	*27.8%*	*25.1%*
60	*29.3%*	*29.5%*	*24.7%*	*27.8%*	*27.8%*	*25.1%*
70	*30.0%*	*30.2%*	*24.7%*	*28.0%*	*28.0%*	*25.1%*
80	*30.7%*	*30.9%*	*24.7%*	*28.5%*	*28.5%*	*25.1%*
90	*31.4%*	*31.6%*	*24.7%*	*29.0%*	*29.0%*	*25.1%*
100	*32.3%*	*32.3%*	*24.7%*	*29.5%*	*29.5%*	*25.1%*

Further, assuming that immobile economic rents will also be taxed at a reduced rate, the findings of this study suggest that a reduction in the CIT rate significantly below 25 per cent will result in, at best, no difference in the tax benefit and at worst, a reduced tax benefit to the taxing jurisdictions.

For completeness, it should be noted that this study does not attempt to model investment behaviour over time in response to global tax changes. Rather, it observes that pure profits do not shift and economic rents are forfeited from a CIT rate reduction in place of an ACE-variant under both the Belgian and Italian regimes. Further, these results also suggest that a combination of an ACE-variant combined with a mechanism similar to a fixed ratio rule may present a more effective tax revenue base protection measure. This is the subject of further research by the author.

Fig. 2: Results of Modelling a Headline CIT Rate Cut on the Belgian and Italian Subsidiaries



It goes without saying that international tax competition issues cannot be eliminated. However, the findings of this model question whether jurisdictions such as Belgium and Italy would benefit from coordinated multilateral reductions to their CIT rates. This model assumes that coordination would only occur between higher-tax jurisdictions; that is, the Belgian and Italian subsidiaries, and the US. The findings are that while TTP behaves in the way illustrated by the above Fig. 2, the most tax-aggressive MNE never nominates to place any NPBT into the Belgian and Italian subsidiaries; rather it channels its profit shifting into the very lowest taxing jurisdictions available to it, ie, specifically, in the context of this model, to Singapore and Hong Kong. This indicates that Belgium and Italy would not be the 'winners' from a coordinated multilateral corporate tax cut.

5. Conclusion

This article approaches the extensive literature exploring MNEs' aggressive tax planning behaviour from a novel perspective by exploring the tension commonly experienced by policy-makers between lowering the headline CIT rate as opposed to implementing tax reforms which aim to reduce economic distortions such as ACE-variants. In doing so, through a comparative legal analysis of the Belgian and Italian ACE-variants in section 3, this article identifies four key recurring trade-offs that present political challenges to the implementation of such fundamental reforms: first, the trade-off between revenue neutrality and ACE system integrity; second, the trade-off between implementing an ACE (at the expense of tax revenue) as opposed to reducing the headline corporate income tax rate; third, on a domestic level, that politically the ACE is perceived to benefit MNEs disproportionately more so than SMEs, and fourth, on an international level, that there is a trade-off between the desire to make inbound investment more attractive and the risk of base erosion from aggressive tax planning by MNEs.

Since economic distortions are likely to increase incentives for tax-induced behaviours, in particular, aggressive tax planning, there is an urgent imperative for tax rules impacting cross-border intercompany transactions to be designed such that efficiency and integrity outcomes are both prioritised and attained. Through an optimisation modelling approach in section 4, this article demonstrates that simply implementing corporate tax cuts will not necessarily achieve these outcomes. This gives rise to the following two observations. First, this article demonstrates that simply implementing corporate tax cuts will not achieve efficiency and integrity outcomes. Specifically, relatively less tax-aggressive MNEs will likely be indifferent to a unilateral corporate tax cut. This is particularly problematic because if Belgium and Italy were to reduce their corporate tax rates to the thresholds modelled in this article (namely, below 24.7 per cent and 25.1 per cent respectively) they would simply be forfeiting tax revenue from economic rents without impacting MNEs' profit shifting behaviours. This is a timely finding given Italy's corporate tax rate was cut in January 2017 to 24 per cent. This unintended consequence is contrary to the underlying policy objective of implementing corporate tax cuts, namely, to bolster foreign investment.

Second, the most tax-aggressive MNEs will likely be indifferent to a multilateral corporate tax cut by higher taxing jurisdictions. This is because these MNEs never nominate to shift any profits into the higher taxing jurisdictions, instead channelling profits into the very lowest taxing jurisdictions available. As such, Belgium and Italy would not be the 'winners' from a coordinated multilateral corporate tax cut.

Ultimately, it is hoped that this research will present a platform for further discussion on the tax treatment of cross-border intercompany transactions, and facilitate the development of design improvements to cross-border tax policy and reforms.

ANNEXURE 1

Determining the objective function

It is possible to represent the optimisation problem formulaically. This entails a two-step approach; first, defining and applying the objective function; and second, defining and applying the constraints.[145]

The general optimisation problem is the minimisation of the objective function by adjusting the design variables and at the same time satisfying the constraints. Since this model is only concerned with the intercompany activities conducted to minimise tax, the only relevant constraints relate to these intercompany transactions, rather than extending to 'real' economic activities.

In the present analysis, the objective function is the minimisation of total tax payable ('T') for the corporate group.[146] The modelling will occur in two concurrent iterations: first, Belgium ('Co B') and second, Italy ('Co I'). The headline corporate income tax rates are 33 per cent and 24 per cent, respectively.

$$Minimise\colon\ T = \sum_{i=1}^{n} NPBT_{i,n+1} \times t_i \tag{1}$$

Since this model is only concerned with the intercompany activities conducted to minimise tax, the only relevant constraints relate to these intercompany transactions, rather than extending to 'real' economic activities.

Accordingly, this optimisation problem is subject to four 'primary constraints'. Each constraint relates to one of the four categories of fungible intercompany funding that constitute the focus of this article: namely, debt financing, equity financing, licencing and finance leasing ('D_{ij}', 'E_{ij}', 'L_{ij}' and 'F_{ij}', respectively).[147] These can be characterised as the underlying capital amounts ('C_{ij}'). The 'flow' ('W_i') or remuneration derived therefrom constitutes interest, dividends, royalties and finance lease payments ('I_i', 'V_i', 'R_i' and 'P_i', respectively).

This is formulated as follows for each constraint:

$$\mathrm{W_i} = \sum_{\mathrm{i=1}, \mathrm{i \neq j}}^{\mathrm{n}} \mathrm{C_{ij}} \times \mathrm{r_{ij}^{C}} \tag{2}$$

In other words, the 'flow' or remuneration ('W_i') is received by company i, where C_{ij} is the underlying capital provided by company i to company j, at a cost of capital of r_{ij}^{C}. Given the fungibility between these intercompany funding activities, the rate of return

[145] Importantly, the term 'constraints' when used in this context is distinct and separate from the 'positive constraint' of revenue neutrality and the 'normative constraints' of satisfying legislative objectives and attaining stability.
[146] While this is a reasonable objective for a US-based MNE, if the MNE were Australian-owned then the objective function may have instead been the minimisation of foreign taxes; see further, Catherine Ikin and Alfred Tran, 'Corporate Tax Strategy in the Australian Dividend Imputation System' (2013) 28(3) *Australian Tax Forum* 523.
[147] For completeness, in the context of leases, this model focuses on finance leases only and this iteration does not contemplate the impact of depreciation.

is uniform. For ease of reference, this cost of capital (‘r’) is set at 10 per cent in the baseline iteration.

As a consequence, this model assumes that an increase in the profitability of the MNE does not generate shareholder pressure to increase the rate of return on equity (in the form of increased dividends on intercompany equity financing). However, this shareholder pressure is more likely to arise in a widely-held company rather than a wholly-owned subsidiary that prioritises global tax-minimisation. On the other hand, the latter situation applies to the model developed by this study. Nonetheless, the model is designed so that ‘r’ can later be adjusted to simulate the impact of tax rules which directly influence the particular cost of capital, enabling a more complex analysis of MNE behaviour in future iterations.

For completeness, there are three key qualifications to this characterisation that certain types of debt, equity, licencing and leasing are ‘fungible’. First, this analysis is confined to ‘pure’ profit shifting, as opposed to applying in the context of real economic flows. For example, dealings with relatively immobile assets such as land are beyond the scope of this characterisation. Second, fungibility does not apply to all classes of intercompany debt, equity, licencing and leasing – only those that are economically equivalent. In this context, it is instructive to contrast a financing lease payment with an operating lease payment, whereby the former would be reasonably characterised as economically equivalent to interest. Third, this model assumes that it will be possible for the MNE to switch between methods of financing upon changes to tax laws. However, this may not be possible in all cases, particularly where doing so would give rise to potentially adverse tax implications and other costs.

Further, this optimisation problem can be remodelled by layering secondary constraints (which can also be conceptualised as limitations or parameters) that reflect the tax laws applicable to each reform variation, as detailed below.

Overlaying the ‘secondary constraints’

This section delineates concurrent and/or alternative tax rules which constitute the ‘secondary constraints’, to simulate the impact of various rules on MNEs’ tax planning behaviour.

These parameters make it possible to address the question of what the most likely behavioural responses would be to alternative types and rates of tax being levied on otherwise fungible intercompany activities. This enables a more complex analysis to be conducted which also highlights the breadth of the problem, which is that the literature has thus far been too focused on modification of one parameter at a time.

These parameters are as follows:[148]

- thin capitalisation rules;
- withholding taxes; and,
- foreign tax credits.

[148] For completeness, parameters such as the transfer pricing rules and the CFC regime are beyond scope.

For completeness, parameters such as transfer pricing rules and the CFC regime are beyond the scope of this iteration of the model. Instead, subsequent research by the author will build in these additional complexities.

Further, two additional assumptions are made by this study. First, this model assumes that MNEs can relocate almost instantly and free of transaction cost. This assumption is used for simplicity and is in line with the approach adopted in the OECD's BEPS project.[149] Second, as with the OECD's BEPS project,[150] industry- or sector-specific features are beyond the scope of this iteration of the model.

Thin capitalisation rules

Belgium's regime adopts a 5:1 debt-to-equity ratio under their general thin capitalisation rules applicable to intercompany loans. This can be expressed algorithmically as follows:

$$D_{ij} - 1.5 \times E_{ij} \leq 0$$

With the above algorithm, it is possible to target both or either inbound and outbound investment.

On the other hand, Italy utilises the fixed ratio approach with a benchmark ratio currently set at 30 per cent. This can be expressed algorithmically as follows:

$$|I_i + P_i| \leq (BFR\% \times NPBT_{i,t+1})$$

Despite the complexities arising in the calculation of the EBITDA, this study makes the simplifying assumption that *NPBT* is effectively equivalent to EBITDA.

Withholding taxes

Unlike most of the other parameters built into the model, withholding tax rates are beyond the unilateral control of governments. Each tax treaty – and, by extension, each withholding tax rate within each treaty – is the result of a distinct and separate bilateral negotiation process. Since withholding tax rates cannot be unilaterally increased (although they can be unilaterally decreased) without renegotiation of the bilateral arrangements, this parameter can be conceptualised as a 'supernational parameter'.

Specific withholding tax rates apply for each of the types of intercompany flows examined in this model.

Table 2 and Table 3 below indicate the withholding tax rates for each type of intercompany funding applicable for each jurisdiction (with notation in the second

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[149] See further, Jörg Hülshorst, Maximilian Tenberge, Svetlana Kuzmina, Alexander Hoß and Andreas Westermaier, 'Germany - Transfer Pricing Implications of Action 4 under the OECD's BEPS Initiative' (2016) 23(2) *International Transfer Pricing Journal* 128, 131.

[150] 'Moreover, the formula of fixed cap does not match best with every sector and firm. That is why the Action 4 report recognizes the need to develop suitable and specific rules that address BEPS risks in banking and insurance industries. Although it does make sense to respect the specific features of banking and insurance industries, other industries might also claim the special treatments from the BEPS project. It is not realistic to design the specific rules for every firm, industry or sector': Reuven S Avi-Yonah and Haiyan Xu, 'Evaluating BEPS: A Reconsideration of the Benefits Principle and Proposal for UN Oversight' (2016) 6(2) *Harvard Business Law Review* 185, 217.

column representing a flow from country 'j' to country 'i', given the notation of the underlying transfer would be 'ij').

Table 2: Overview of Withholding Tax Rates in Belgium

Withholding tax rates					
		Interest	*Dividends*	*Royalties*	*Lease payments*
Belgium	U, B[151]	***0**/15%□*	***0**/5/15%●*	*0%*	*0/15%*
	B, U	***0**/15%*	***0**/5/15%●*	*0%*	*0/15%*
	S, B[152]	*5%◊*	*0%*	*3/**5**%♦*	*5%*
	B, S	*5%*	***5**/15%●*	*5%*	*5%*

Key: ◊ government authorities/ financial institutions are afforded a withholding tax exemption; □ interest on certain 'portfolio debt' obligations are exempt from withholding tax; ♦ withholding tax exemption applies to interest paid in relation to either a sale on credit of goods, merchandise or services, or a sale on credit of industrial, commercial or scientific equipment; ● higher withholding rates apply if there is a lower level of participation.

Table 3: Overview of Withholding Tax Rates in Italy

Withholding tax rates					
		Interest	*Dividends*	*Royalties*	*Lease payments*
Italy	U, I[153]	*0/**10**%◊♦*	***5**/15%●*	*0/5/**8**%*[154]	*0/**10**%◊♦*
	I, U	*0/**10**%◊♦*	***5**/15%●*	*0/5/**8**%*[155]	*0/**10**%◊♦*
	S, I[156]	*12.5%◊*	*0%*	***15**/20%*[157]	*12.5%*
	I, S	*0/**12.5**%◊*	*10%*	***15**/20%*	*0/**12.5**%◊*

Key: ◊ government authorities/ financial institutions are afforded a withholding tax exemption; □ interest on certain 'portfolio debt' obligations are exempt from withholding tax; ♦ withholding tax exemption applies to interest paid in relation to either a sale on credit of goods, merchandise or services, or a sale on credit of industrial, commercial or scientific equipment; ● higher withholding rates apply if there is a lower level of participation.

For completeness, in

[151] See *Convention between the Government of the United States of America and the Government of the Kingdom of Belgium for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income*, signed 27 November 2006 (entered into force 28 December 2007).
[152] See *Agreement between the Government of the Republic of Singapore and the Government of the Kingdom of Belgium for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income*, signed 6 November 2006 (entered into force 27 November 2008).
[153] See *Convention between the Government of the United States of America and the Government of the Italian Republic for the Avoidance of Double Taxation with respect to Taxes on Income and the Prevention of Fraud or Fiscal Evasion*, signed 25 August 1991 (entered into force 16 December 2009).
[154] Francesco Avella, 'Italy: Treaty Withholding Rates Table' (1 February 2016), IBFD Country Analyses, Individual Taxation, section 7.4.1.5.
[155] For completeness, the 0 per cent rate applies to royalties for copyrights of literary, artistic or scientific works (excluding royalties for computer software, motion pictures, films, tapes or other means of reproduction used for radio or television broadcasting). The 5 per cent rate applies to royalties for the use of, or the right to use, computer software or industrial, commercial or scientific equipment. In all other cases, the 8 per cent rate is imposed on the gross amount of the royalties: ibid.
[156] See *Agreement between the Government of the Republic of Singapore and the Government of the Italian Republic for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income*, signed 29 January 1977 (entered into force 12 January 1979).
[157] The lower 15 per cent rate applies to copyright royalties: see Avella, above n 154.

Table **2** and Table 3 where one form of intercompany funding may be subject to varying rates of withholding tax, the rate used by the model is highlighted in bold.

Further, this iteration of the model does not make a distinction between portfolio and non-portfolio dividends.[158] These rules are nuanced and jurisdiction specific, whereas this iteration of the model aims to provide a general expression of the current tax rules influencing cross-border tax planning decisions. Similarly, this study acknowledges that various other rules may apply; for example, non-portfolio dividends received by a resident company from a foreign-resident country may be exempt or non-assessable non-exempt income. However, this level of detail is beyond the scope of this iteration of the model. The ultimate issue of repatriation is also not considered, given the short-term nature of this single-period iteration of the model. For the purposes of the optimisation model, the existence of withholding tax gives rise to a potentially increased T. This necessitates a modification to the objective function, as follows:

$$Minimise: \quad T = \cdots + (D_{ij} \times r_{ji}^{WHT^I} + E_{ij} \times r_{ji}^{WHT^V} + L_{ij} \times r_{ji}^{WHT^R} + F_{ij} \times r_{ji}^{WHT^P})$$

where r_{ij}^{WHT} represents the potential marginal increase in TTP, which is a function of the rates of return (r, assumed to be 10 per cent in the baseline iteration for all types of funding) multiplied by the respective 'relative value' for each decision variable (denoted as WHT, with each 'relative value' shown in

Table **2** and Table 3 above).

A run-time test indicates that the MNE will funnel all funds through a combination of the decision variable with the lowest withholding tax rate and the jurisdiction with the lowest corporate income tax rate. This can be further validated by a two-fold analysis: first, anecdotal evidence from leading tax practitioners suggests that this reflects MNEs'

[158] An area for further research is to consider the ultimate flow through to the final shareholder in the model, which would require distinguishing portfolio and non-portfolio dividends – whereas this model assumes that an MNE engages in tax planning in relation to its non-portfolio dividends. As Daurer and Krever have noted:

> An important principle of tax design is that taxes should have a minimal impact on business decisions and with this in mind, tax treaties commonly distinguish between small passive investments in local companies (known as 'portfolio' investments, as they are assumed to be part of the foreign shareholder's investment portfolio) and more substantial (non-portfolio) direct investments in a local operating company … [T]reaties may set two caps on dividend income with a higher rate allowed on dividends paid to portfolio shareholders and a lower rate allowed on dividends paid to non-portfolio shareholders. The provisions setting out the dual caps for portfolio and non-portfolio investors provide the only instance in which the UN model treaty is more favourable to the capital exporting nation than the OECD model treaty. Under the OECD model, the capital importing country will be required to use the lower withholding tax rate when the investor has a 25 per cent or greater interest in the company paying dividends. Under the UN model, the capital importing country must apply the lower rate when dividends are paid to investors with only 10 per cent or greater interests in a local company.

Veronika Daurer and Richard Krever, 'Choosing between the UN and OECD Tax Policy Models: An African Case Study' (2014) 22(1) *African Journal of International and Comparative Law* 1, 15.

behaviour; second, from the perspective of the MNE as a group, withholding taxes increase the cost of capital of the funding type by the amount of the tax rate withheld.[159]

This relationship can be expressed as follows:

$$r^{WHT} = r\ (1 +\ \tau)$$

where r^{WHT} is the cost of capital following the imposition of withholding taxes, r is the rate of return prior to the imposition of withholding taxes and τ is the withholding tax rate.

Foreign tax credits

To avoid double taxation, foreign income may be exempt from tax under the relevant jurisdiction's foreign tax credit (FTC) regime. Each jurisdiction unilaterally controls its FTC system, rendering this a parameter.

It is noteworthy that FTC systems and rates differ markedly between jurisdictions. In order to convert the FTC regime into an algorithmic expression, it is instructive to first articulate the operation of this system. The FTC is limited to the domestic tax liability that would be due on the foreign source income.[160] Specifically, a jurisdiction's FTC is the lower of: (A) the amount of tax attributable to the foreign source income; or (B) the actual amount of foreign tax paid.

In other words, if the amount of tax attributable to the foreign source income (A) exceeds the actual amount of foreign tax paid (B), then T will increase by the difference: namely, A – B. If, however, the actual amount of foreign tax paid (B) exceeds the amount of tax attributable to the foreign source income (A), then T will remain unchanged, because there will be no increase to domestic tax liability.

For the purposes of the optimisation model, FTC can be built into the objective function with the addition of the following notation:

$$Minimise\text{: } T = \cdots + \sum_{\substack{j \\ i \neq j}} \sum_{k} (D_{ijk} \ +\ E_{ijk} \ +\ L_{ijk} \ +\ F_{ijk})\ (r_{ijk} \times r_{ijk}^{FTC} \ -\ r_{ijk} \times r_{kji}^{WHT})$$

where ijk represents the inclusion of all three jurisdictions, r_{ijk} is the initial rate of return (assuming the 'tax attributable' is calculated on the gross-up, this is the same as the initial rate of return of 10 per cent), r_{ijk}^{FTC} represents the amount of tax attributable to the foreign source income and r_{kji}^{WHT} represents the actual amount of foreign tax paid.

159 European Commission, 'The Economic Impact of the Commission Recommendation on Withholding Tax Relief Procedures and the FISCO Proposals' (European Commission Staff Working Document, 24 June 2009) 44.

160 'Essentially, the foreign tax credit is limited to the US tax liability that would be due on the foreign source income': Review of Business Taxation (John Ralph, chair), *An International Perspective: Discussion Paper, Examining How Other Countries Approach Business Taxation* (December 1998) 107 ('International Taxation').

Both Belgium and Italy provide some level of relief from double taxation of foreign source income. Belgium's FTC[161] is limited to a lump-sum amount equal to 15/85 of the amount of the net foreign source income, with a separate calculation applying to interest withholding tax, with it too capped at 15 per cent. On the other hand, Italy's FTC is calculated on a country-by-country basis.[162] However, for simplicity, none of these nuances are included in the initial iterations of the optimisation model.

[161] Called the QFIE system ("*quotité forfaitaire d'impôt étrangers*"): Patrick A A Vanhaute, *Belgium in International Tax Planning* (IBFD Publications, 2nd ed, 2008) 91-92, 159.
[162] See further, Avella, above n 154.