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The Taxation of Employee Stock Options

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N° 11

Foreword

This publication presents an analysis of issues that arise in the taxation of employee stock option plans. It represents the output of a project that was initiated by the OECD's Committee on Fiscal Affairs (CFA) in 2001. Chapters 1 and 2 discuss domestic aspects of stock options, while Chapters 3 and 4 deal with international issues.

Chapter 1 starts with a discussion of the role of employee stock options and the issues that arise in their taxation, leaving aside issues that arise in a cross border context. It then proceeds to a discussion of the circumstances in which the taxation of stock options is neutral vis-à-vis ordinary salaries, and the ways in which non-neutrality may arise. Chapter 2 complements the analysis of Chapter 1 by reporting on the ways in which OECD countries taxed employee stock options in 2002, calculating the effective rate of tax that they faced and comparing that with the effective rate of tax on ordinary salary. These two chapters were prepared within the OECD Secretariat by Christopher Heady and Luca Gandullia and are based on information provided by delegates to the CFA's Working Party No. 2 on Tax Policy Analysis and Tax Statistics. The Working Party also provided valuable comments on earlier drafts of these chapters.

Chapter 3 moves into the area of international taxation by analysing the cross-border income tax issues that arise from employee stock option plans and recommending interpretations of bilateral tax treaties to address these issues. The Chapter examines some practical issues concerning the application and interpretation of tax treaties when an employee who works or resides in more than one country receives a stock-option. These issues include the timing mismatch in residence and source taxation of the employment benefit arising from an employee stock-option, the need to distinguish that benefit from the capital gain that may arise after the exercise of the option and the difficulty of determining to which employment services a stock-option relates. The analysis and recommendations were prepared by the CFA's Working Party No. 1 on Tax Conventions and Related Questions, with the support of Jacques Sasseville from the OECD Secretariat. The chapter includes the changes to the Commentary to the Model Tax Convention that resulted from that work.

Chapter 4 continues the analysis of international tax issues by considering a number of transfer pricing issues related to stock options. It has been prepared within the OECD Secretariat by Caroline Silberztein and benefited from considerable input and detailed discussions from the Delegates to the CFA's Working Party No. 6. The focus in this study is on plans in listed companies. Very importantly, it starts with the premise that employee stock options are remuneration. It is concerned with the question of whether any conditions made or imposed between two associated enterprises in their commercial or financial relations resulting from or affected by the existence of an employee stock option plan differ from those which would be made between independent enterprises. Three main situations are identified where transfer pricing issues potentially arise. The first is where one enterprise grants stock options to employees of an associated enterprise resident in another tax jurisdiction. The second situation addresses two types of issues that are interrelated: first, the impact of stock options on the valuation of intra-group transactions other than the provision of a stock option plan. Second, the impact of stock options on comparability where employee remuneration of either the tested party or the comparables is materially impacted by stock options. The third situation relates to the impact of stock options on Cost Contribution Arrangements (CCAs).

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Chapter 1

Tax Neutrality

1. Introduction

Over the past 15 years, incentive pay schemes have become an important component of employee compensation in the OECD countries. Although there exist various forms of equity-based compensation (like share incentive plans, cash-based profit sharing, employee stock purchase plans, etc.), the overwhelming number of firms using incentive pay schemes relies on stock options (Towers Perrin, 2001).

In the 1990s, stock options were a standard feature in most executive pay packages in countries like the United States, Canada, Australia and the UK, while they were used to lesser extent in the other countries. In more recent years, their use has been extended to a larger set of potential beneficiaries, becoming a more common instrument of employees' compensation also in the other OECD countries.

Traditionally the popularity of stock options plans between OECD countries has been explained by two different set of arguments (Smith and Watts, 1982; Hall and Liebman, 2000). On the one hand, there are the economic arguments that stock options help align the incentives of executives with the interests of shareholders and help start-up firms by substituting for salary in order to reduce cash-outflows; on the other hand, the popularity is explained by tax reasons, that is, it is conjectured that stock options are advantageous from a tax perspective in that they enable the firm to compensate executives or employees in a way that is more advantageous from a tax standpoint than paying a cash salary.

This Chapter and Chapter 2 analyse the domestic tax treatment of employee stock options, while Chapters 3 and 4 discuss international aspects. The remainder of this

Box 1.1. **What are employee stock options?**

A stock option is a financial instrument that represents the right to buy a certain asset at a designated price (exercise price) during a predetermined period, at any time within the predetermined period for American style options or at the end of the predetermined period for European style options. The "life" of a stock option is marked by four events: the granting, the vesting (stock options are usually subject to a minimum holding period), the exercise and the sale of the shares acquired through the exercise of the options. Employee stock options are options granted by a company to its employees as a compensation for work. The underlying assets are shares of the employer company. In the majority of cases the exercise price is close or equal to the price of the underlying stock at grant. Employee stock options are usually not tradable and cannot be disposed of in any other way. If the market value of the underlying shares is higher than the exercise price, the options are "in-the-money", otherwise they are "out-of-the-money". For tax purposes, employee stock options may benefit from special treatment compared with that of ordinary cash compensation. The tax code usually specifies certain conditions. If these conditions are met, the stock options plan becomes "qualified".

section contains a brief review of the relevant literature and relates our analysis of domestic tax treatment to that literature. Section 2 then introduces the analysis by describing the simplified framework to analyse neutrality in the simplest case: certainty and no personal level taxation. Section 3 extends the analysis to include personal taxation. This is followed by the introduction of uncertainty in Section 4. Section 5 extends the analysis to include possible different productivity of the company as a result of the issuing of the stock options. This is followed by the introduction of employees' risk aversion in Section 6. Section 7 summarises the results, while the Annex provides an algebraic demonstration of the main tax neutrality results on stock options.

The central economic argument in favour of employee stock options is that they can mitigate the principal-agent problem in corporate governance by being an effective mechanism for aligning the interests of managers more closely with those of shareholders (Murphy, 1999; Core and Guay, 2001; Core *et al.,* 2003). In this perspective, the majority of theoretical research on employee stock options treats options as part of an optimal incentive arrangement that mitigates agency problems between shareholders and managers. This argument has been scrutinized by a number of empirical studies, with ambiguous results. In the same perspective of asymmetric information (but now between the company and the financial market), stock options can also have an important signalling function to potential providers of capital, who will be more inclined to invest in a company whose staff is paid in employee stock options. However, according to more recent literature (that formulate the so-called managerial rent-extraction hypothesis), stock options are a form of rent extraction by insiders (the executives) at shareholders' expense (Bebchuk *et al*., 2002). The assumption here is that compensation programmes for executives are usually developed by insiders rather than by shareholders and will thus reflect insider preferences. In this perspective, stock options, rather than contributing to a solution, are part of the corporate governance problem.

Other popular arguments in favour of stock options are based on *i)* motivation and productivity of employees, *ii)* personnel recruitment and retention, and finally *iii)* capital and liquidity-related reasons. Like other similar incentive pay schemes, stock options can create a stronger sense of involvement for employees, making them more interested in the value of the company and inducing them to increase their productivity. Especially for young and growing firms, stock options (that can be exercised normally after a number of years) can be also an effective instrument in attracting and retaining personnel that otherwise would prefer to work in larger companies. Probably more important in practice is the role of stock options in the presence of capital and liquidity constraints, allowing companies – especially start-ups and young firms – to remunerate their employees without immediate cash payments (see for a survey Pendleton *et al.,* 2002). In this perspective stock options can have a role in fostering young small companies. As stock options over the shares of young, high-growth companies can become very valuable over time, they create incentives for employees to work for such companies even if the cash salaries are less attractive than those offered by larger companies. For young companies that have liquidity constraints, stock options can sometimes be the only form of remuneration that can help in attracting and retaining highly-skilled employees. The argument that stock options can play a role – together with other factors – in stimulating innovation, entrepreneurship and growth is often recognized in a policy perspective (OECD, 2001a; European Commission, 2003a). Some empirical studies have also found evidence for this argument (for instance Yermack, 1995 and Smith and Watts, 1992).

From the perspective of the employee, unlike ordinary cash salary, but like other performance-based compensations, stock options hold a certain degree of risk. As a result, companies may have to pay a premium to compensate employees for assuming this increased risk. As shown in Hall and Murphy (2002), risk-averse and un-diversified executives will be willing to accept stock-based compensations instead of cash payments only if the value of the stock-based pay is substantially greater than the value of the cash foregone.

The way in which stock options plans are used and their incentive effects depend also on the tax and regulatory treatment they are accorded. The tax treatment of stock options raises a number of issues, mainly concerning the qualification of the income (employment income or capital income), the applicable taxes and charges (income tax, capital gains tax and social security contributions), the timing of taxation (grant, exercise or disposal of shares) and the treatment at corporate level (that is if the cost can be deducted or not from corporate income). A discussion of possible choices in the taxation of stock options and their effects has been published by the European Commission (2003a).

As a benchmark, an efficient tax treatment of stock options is one that would provide no tax-related incentive for a company to either increase or decrease the number of employee stock options that it grants, and would be neutral with respect to the choice between granting stock options and paying ordinary salary.

The point that is almost unanimously recognised in the literature is that, in order to evaluate the tax treatment and its effects, both personal and corporate taxes have to be considered simultaneously (see for instance Hall and Liebman, 2000; Guimbert and Vallat, 2000; Mintz and Wilson, 2000; Niemann and Simons, 2002).

Conclusions on the appropriate level of taxes to be levied on stock options and on possible preferential tax treatments are difficult to draw. The arguments that have sometimes been made for preferential tax treatment of employee stock options are based on the advantages that such stock options are thought to provide, advantages that – as illustrated above – rely mainly on *i)* aligning the interests of managers and employees with those of shareholders and *ii)* the opportunity to attract valuable employees without offering them large cash salaries. Of course, the simple fact that stock options have desirable characteristics is not sufficient to justify preferential tax treatment. It is generally thought that preferential tax treatment is only justified if it corrects a market failure or if it provides a benefit to society in general (an "external effect"). The first argument *i)* appears to be a benefit that is captured entirely by the firm and its shareholders, and therefore does not justify preferential tax treatment. In contrast, advantage *ii)* is related to a possible market imperfection. Small new firms have difficulties in raising finance to cover their costs because they lack collateral and a proven business record. The issuing of employee stock can be a method of reducing the financing needs of such firms, providing them with a way around the capital market imperfection. This thus appears to be a more solid reason for tax preference than the others. However, the question needs to be asked whether there may not be more effective or better-targeted methods of overcoming the capital market imperfection.

The European Commission (2003a) recognises that employee stock options should at least not be disadvantaged in comparison with ordinary employment income. In principle, having in mind that stock options are frequently offered to highly qualified employees who are the more mobile part of the labour force, high taxes can create obstacles for the recruitment of these persons. Countries can enter into tax competition in trying to attract and keep qualified personnel.

The economic literature on the taxation of employee stock options has considered the following main issues: *i)* tax equity profiles; *ii)* tax revenues effects; *iii)* effects on corporate finance decisions; *iv)* effects on the choice of employees' compensation; *v)* effects on the optimal incentive contracts between executives and shareholders; *vi)* measurement of tax incentives.

In the case of stock options granted to executives rather than to employees, preferential tax treatment can raise equity drawbacks. The effect can be a taxation bias in favour of highly qualified labour, reducing progressiveness at the upper end of the earnings distribution (OECD, 2001b).

In the United States, stock options have become the single largest component of executive pay to a point where they may have measurable effects on increased volatility in tax revenues (Goolsbee, 1997 and 2000). Goolsbee (2000) attempts to help explain the un-forecasted "excess" personal income tax revenues during the 1990s in the US where gains on most stock options are treated as ordinary income for tax purposes. He argues that among high-income executives at least there has been a noticeable blurring of the lines between capital and wage income from 1991 to 1998 and that this blurring has been particularly pronounced in the high-technology sector where stock options compensations are popular. Goolsbee finds significant evidence of three effects: first, stock performance has directly affected the amount of ordinary income that people have reported by influencing their stock options exercise decisions (as discussed also by Hall and Liebman, 2000, rising stock prices lead to greater option exercise, thus creating a direct connection between stock market gains and ordinary income reported for tax purposes); second, as options give executives more flexibility in changing the timing of their reported income, ordinary income of executives has been extremely sensitive to anticipated tax rate changes; third, there is a direct connection between capital gains tax rates and ordinary income; falling capital gains rates in 1997 increased the probability of exercising options early to get future stock gains treated as lower-taxed capital gains.

Also, corporate tax revenue is affected by stock options plans. Many studies in the US (Desai, 2002; Sullivan, 2002; Cipriano *et al.*, 2001; Graham *et al.*, 2004) have estimated the magnitude of corporate tax savings deriving from the deduction of stock options costs (deduction equal to the difference between current market value and strike prices when the employee exercises a non-qualified stock option).

In some theoretical and empirical studies, stock options are analysed in the framework of corporate taxation and the effects of taxes on financial decisions of enterprises. Graham *et al.* (2004) explore the corporate tax implications of compensating employees with non-qualified stock options and specifically the effects of employee stock options on marginal tax rates and the resulting impact on capital structure. Assuming that firms trade off debt and non-debt tax shields when they make capital structure decisions (DeAngelo and Masulis, 1980), the idea is that if stock option deductions are large enough to reduce marginal tax rates, they can reduce the value of interest deductions and thus alter the incentives to issue debt. They find evidence for a large sample of US quoted companies that stock option deductions are important non-debt tax shields which reduce marginal tax rates substantially and that firms that use options extensively use little debt, meaning that option deductions substitute for interest deductions in corporate capital structure decisions.

Other empirical studies find similar evidence [see for instance Kahle and Shastri (2002]. Amromin and Liang (2003) explore two effects of employee stock options on tax incentives to issue debt. The deduction of stock options cost creates a non-debt tax shield, reducing the incentives to issue debt. In contrast, the grant of options also creates a demand for hedging unexpected stock price increases, and firms have a tax-based incentive to hedge by borrowing to repurchase shares. On the basis of a sample of large S&P 500 firms in the period 1995-2001, these authors find empirical evidence consistent with both effects, and that the increase in debt through hedging more than offsets the effect of reducing marginal tax rates for high tax rate firms.

Some studies investigate whether tax policy has influenced the level and/or the composition of executive compensation and specifically the use of stock options plans. As mentioned above, the popularity of stock options plans is sometimes explained more by tax considerations than by economic arguments, even though only few empirical studies support this argument. For instance, Hite and Long (1982) and Long (1992) find that changes in the US tax code have been followed by changes in the design of stock options plans (see also Smith and Watts, 1982).

Hall and Murphy (2003) argue that tax and accounting rules – rather than purely economic motivations – help to explain the widespread use of option-based pay in the US where, during the 1990s, changes in disclosure and tax rules reinforced stronger linkages between executive compensations and stock performance (Hall and Liebman, 2000). According to these authors, even if the empirical evidence has been inconclusive, the new rules – especially the new tax rule introduced in 1994 disallowing deductions for "non-performance-based" compensation in excess of 1 million dollars – constitute an implicit government signal in favour of the use of stock options as appropriate performance-based compensation (Hall and Liebman, 2000; Hall and Murphy, 2003).

On the basis of the US tax and accounting rules, Murphy (2002) finds an alternative explanation for the growth of option-granting in the US during the 1990s. The idea is that decisions over options are made based on the "perceived cost" of options rather than on their real economic cost. When a company grants an option to an employee, it bears an economic cost equal to what an outside investor would pay for the option. But it bears no accounting charge and incurs no outlay of cash. Moreover, when the option is exercised, the company (usually) issues a new share to the executive and receives a tax deduction for the spread between the stock price and the exercise price. These factors make the "perceived cost" of an option much lower than the economic cost (Murphy, 2002; Hall and Murphy, 2003).

In order to find evidence of the influence of the tax policy on the level or composition of executives' compensation, Hall and Liebman (2000) examined the tax (dis)advantage of stock options over ordinary salary in the US. They found only a moderate tax advantage of *non-qualified* stock options over salary because the tax advantages to the executives of deferring taxes have been largely offset by the tax disadvantages to the company of not being able to deduct option expenses from taxable profits until the time of exercise. They found also a moderate advantage of *non-qualified* stock options over *incentive* stock options, due to the fact that option expenses cannot be deducted for *incentive* stock options. In general they find little evidence that changes in the tax treatment of stock options during the 1980s and 1990s in the US have played a major role in the dramatic explosion in executive stock option pay. Other factors – like changes in corporate governance – appear to have had more influence.

Some other studies investigate whether tax incentives play a role in the form of compensation a firm chooses to use. Hite and Long (1982), observing that in the early 70s American firms replaced their incentive stock options plans with non-qualified plans, find evidence that tax considerations have played an important role in explaining the form of compensation contracts. Core and Guay (2001) find that high tax-rate firms issue fewer stock options to non-executive employees, presumably because the firms would rather use traditional forms of compensation (like salary) that lead to an immediate deduction.

Having in mind that stock option plans help align the incentives of the executive with the interests of the firm's shareholders, Hall and Liebman (2000) examine how taxes can affect the optimal incentive contract for managers (that is the share of compensation that is performance-related). The effect of taxation seems to be ambiguous because there are offsetting effects. According to their analysis, on the one hand, taxes reduce the share of corporate profits received by shareholders and will thus diminish the importance to the shareholders of motivating the executives, in turn reducing the use of performance-based compensation. Yet on the other hand, because taxes lead executives to provide less effort for any given level of performance-based compensation, shareholders will be induced to increase the use of this form of compensation.

Niemann and Simons (2002) analyse the influence of taxes on stock options schemes by integrating taxation into a principal-agent model, where the principal is the shareholder and the agent is the executive who is compensated by stock options. They consider at the same time the tax treatment of stock options at both corporate and personal levels. Deriving the optimal quantity of options to be granted and the optimal exercise price to be set in a world without taxes, they quantify resulting profits for executives and shareholders; comparing these results with the results obtained with different levels of taxation and tax regimes, they identify the channels through which taxes can distort the optimal stock options scheme. For instance, they show that when the tax rate on stock options benefits (tb) and the corporate tax rate (tc) (assuming deductibility of stock options costs) are identical, taxation is neutral with respect to the decision to implement a stock options scheme. In contrast, when $tb < tc$, stock options schemes will be implemented less frequently than in the tax-free case because the negative effect caused by the taxation at the personal level dominates the positive effect of deduction at the corporate level.

A fundamental question in the employment compensation literature is the measurement of incentives (Core *et al.*, 2003). Different approaches can be used to measure the incidence of taxes on the stock options schemes and compare it with that on ordinary salary. According to Hall and Liebman (2000) the crucial tax difference between non-qualified options and salary is that option payouts are deferred, and the two forms of compensation earn different rates of return over the deferral period. In order to make comparisons between the two forms of compensation, they compare the tax burden to the employee, while holding constant the post-tax cost (net present value) to the company. A comparison of the tax advantage of options and cash salary involves comparing a pre-tax cash payment of X with an option payment that has the equivalent post-tax net present value to the company. Thus any package that is preferred by the employee is tax-advantaged in the global sense (for an application of the Hall and Liebman methodology see also Guimbert and Vallat, 2000). They also analyse the tax difference between the two US stock options schemes: non-qualified stock options and incentive stock options. For a transfer X to the employee, the incentive stock options is always tax-preferred by the executive (since the capital gains tax rate is lower than the personal income tax rate), while the non-qualified stock options is always tax-preferred by the employer (since the stock options costs are not deductible for incentive stock options). The company is indifferent about either setting aside X in the form of non-qualified stock options today or setting aside X(1-tc) in the form of incentive stock options (where tc is the corporate tax rate). In a global perspective (employer and employee), they show that the incentive stock options schemes are tax-advantaged only if their advantage (the difference between the personal rate and the capital gains rate) is large enough to offset their cost (the disadvantage of the non-deduction).

The European Commission conducted a comprehensive analysis of stock options' taxation in the EU and in the US (European Commission, 2003b). In the study the effective tax rates on stock options are calculated on the basis of a standard scenario that includes the whole life-cycle of a stock option plan, and for different income levels and different family situations. More specifically, it is assumed that the employee is granted stock options, exercises them after three years and sells the shares that he thus obtains after two more years. All payments that the employee would have to make as a consequence of receiving options and all the benefits that he would receive have been discounted to the date of grant in order to make them comparable. Calculations have been based on certain assumptions concerning the development of the portfolios and on the basis of three different levels of basic cash employment income, different grant-levels (as a share of the employment income) and different family situations.

According to the EC study, effective tax rates show large variations between European countries, and on average taxes on stock options are higher in the EU than in the US since taxes and social security contributions are higher on employment income. The difference is higher for single employees and lower for married couples with children. The main limit of the methodology is that only personal income taxes (and social security contributions) are taken into account, not the tax treatment of stock options at the corporate level.

In a study undertaken by Elschner *et al.* (2003), effective tax burdens of companies and highly skilled manpower are estimated for some European countries and the US. The idea is that, under competitive labour markets for highly skilled employees, companies have to compensate these employees for international differences in labour tax burdens and this element, together with the corporate taxation on profits, can influence the attractiveness of a particular country as a location for investment. In the simulation model used by the authors, stock options are considered as one of possible kinds of employees' compensation. The tax burden of different countries is compared for a given disposable income after taxes for an employee. Average effective tax rates are calculated for different income levels, compensation structure and different family situations. One of the main results is that the compensation structure influences the effective average tax rate. In most countries, the effective tax burden decreases substantially if the employee is granted stock options, meaning that these forms of compensation generally receive a favourable tax treatment.

This discussion of the literature shows that the tax treatment of stock options raises a number of issues concerning the qualification of the income, timing of taxation, applicable taxes and charges and treatment at the level of the issuing company. The interaction of these components of the tax treatment can influence the composition of employee compensation. Depending on individual cases, the tax treatment may create obstacles to the use of stock options or, on the contrary, it may create incentives to use stock options rather than ordinary salary. With few exceptions (Hall and Liebman, 2000; Niemann and Simons, 2002), the economic literature on the taxation of stock options has not fully analysed the conditions under which the tax system ensures *neutrality* between granting stock options and paying ordinary salary.

This is the aim of this chapter which attempts to specify a tax treatment of employee stock options that would provide no (tax-related) incentive for a company to either increase or decrease the number of employee stock options that it grants, and that would be neutral with respect to the choice between granting stock options and paying ordinary salary. The approach followed in this study is non-prescriptive and so the analysis of neutrality is undertaken to provide a useful benchmark for policymakers, leaving the question of whether any non-neutrality is desirable to the judgment of individual countries.

There are some differences from other previous studies. Hall and Liebman (2000) and subsequently Guimbert and Vallat (2000) compare the tax treatment of ordinary salary and stock options, showing the conditions under which stock options are tax advantaged or not over ordinary salary. However, the analysis implicitly assumes the absence of uncertainty about the possible outcomes of stock options, the possible additional productivity of the company as an effect of issuing stock options and the case where the employee receiving the options is risk-averse. These assumptions are removed in the study by Niemann and Simons (2002), where the taxation of stock options is integrated into a formal principal-agent model and where there is asymmetric information between the shareholder – the principal – and the employee (executive) – the agent – so that the employer (the company) does not know at the time of stock option issuing which effort level will really be provided by the employee. Also in our study we consider explicitly the presence of uncertainty, the possible additional productivity of the company and the risk aversion of the employee, but, differently from the Niemann and Simons analysis, the conditions of tax neutrality are derived in a framework where the company and the employee share the same level of information.

Within this framework, the study addresses some issues that are relevant in the taxation of stock options: the tax treatment of stock options costs at the corporate level; the different timing of taxation (time of grant or of exercise); the taxation in the presence of uncertainty; the effects of possible additional productivity of the company as a consequence of issuing stock options; finally, the effects of the possible risk aversion of the employee receiving the stock options compensation.

Some assumptions and limitations of the framework used in this study should be noted. First, the tax treatment of stock options is analysed in a framework that disregards any lapse of time that typically occurs between grant and exercise of the stock option. Thus, it ignores the deferral issues that, as illustrated above (see Graham *et al.*, 2004; Kahle and Shastri, 2002; Amromin and Liang, 2003), can be important both in theory and in practice in explaining the economics of stock options plans. However, the effect of deferral on the taxation of stock options is unlikely to be important and cannot be expected to systematically affect the results. This is because, although taxation at exercise (rather than grant) provides a deferral advantage to the employee, it imposes a deferral disadvantage to the employer by postponing corporate tax deduction. Which is the larger effect depends on the relative size of the after-tax interest rate faced by the employee and the after-tax rate of return for the employer. For employees that are lenders, the former is likely to be smaller than the latter. However, for employees that are borrowers (especially if the interest costs are not tax-deductible), the reverse is likely to be true. Therefore, taking employees as a whole, it is not clear that there is an overall tax advantage to taxation at exercise rather than at grant.

Second, the analysis concentrates on the economics of the issues and therefore does not deal with legal and regulatory issues that in practice can play an important role (Hall and Liebman, 2000; Hall and Murphy, 2003). It thus ignores many of the legal aspects of the distinction between a corporation and its shareholders, and looks through the firm to analyse the effects of corporate costs and taxes on the shareholders. It also does not deal with the implications of any regulations that countries may have to limit a corporation's trade on its own shares.

The main conclusions of the analysis undertaken in the first part of this paper can be summarized as follows. The allowance of stock option costs as a company tax deduction and the equal treatment of stock option benefits and ordinary salary at the personal level are sufficient to ensure neutrality between the taxation of stock options and ordinary salary. This neutrality result applies also under uncertainty if taxation takes place at exercise or if taxation applies at grant on the basis of the fair market value of the option. Neutrality is lost if a company tax deduction is not given and personal taxes remain equal for the two types of remuneration. When risk aversion and productivity increases are introduced into the analysis, the neutrality results (above) continue to hold for taxation at exercise and for taxation at grant. In the case of taxation at grant, this neutrality depends on the stock option value at grant, taking account of the productivity increase that the stock option plan will induce. If that productivity increase is not reflected in the valuation, taxation at grant will not be neutral.

Chapter 2 deals with the measurement of the tax burden on stock options. The aim is twofold: first of all to illustrate and compare the main aspects of the tax treatment of stock options (and other incentive pay schemes) in the OECD countries. The second aim is to measure the tax burden on stock options and compare it with that on ordinary wage income. As illustrated above, other previous studies have calculated the incidence of taxes on stock options schemes (see Hall and Liebman, 2000; Guimbert and Vallat, 2000; European Commission, 2003b; Elschner *et al.*, 2003). These studies differ for the methodologies they use and for country coverage. For instance, the European Commission study is limited to the EU countries and the US; in the study by Elschner *et al.* tax burdens are estimated for only some European countries and for the US.

Our study covers all the OECD countries and makes use of a specific methodology to calculate effective tax rates on stock options and other incentive pay schemes. The methodology is based on the OECD *Taxing Wages* framework, but extended in order to take account of the fact that the cost of stock options is not always allowed as a deduction against corporation tax. This framework offers the advantage of being widely accepted and understood. However, it should be noted that with regard to stock options this methodology is necessarily based on a simplified set of assumptions that cannot allow all the relevant aspects of the tax treatment of stock options to be taken into consideration. One important assumption is the absence of uncertainty, so that the timing of taxation (grant or exercise of the stock options) does not affect the cost of labour and the tax wedge.

The main results of the analysis can be summarised as follows. In many countries, the tax treatment of stock options and salary is the same, and the effective tax rates are thus identical. In some other countries, the tax treatment is the same but only under certain conditions, mainly concerning the deductibility of stock option costs from the corporate income tax base. In all these countries, the tax system is neutral as regards stock options or salary. It is also frequent to find countries that in certain conditions or in certain schemes grant preferential tax treatment of stock options at the personal level, allowing at the same time deductibility at the corporate level. In these countries, the tax system is no longer neutral, as stock options are tax favoured. In these countries, the tax advantage of stock options over salary frequently increases with income; that is, the difference between the tax wedge on stock options and on salary is generally higher for higher levels of income than for average levels. Finally, it is also frequent to find countries that in certain conditions or in certain schemes combine preferential tax treatment at the personal level with non-deductibility of stock options costs at the corporate level. Also in these countries the tax system is generally not neutral. Depending on individual cases, the tax wedge on stock options can be higher or lower than on ordinary salary.

2. The case of certainty with only corporate taxes

Table 1.1 presents the simplest case of stock option taxation at the corporate level under certainty and compares it with salary payments of the same value. It is assumed in this case that the company can obtain a deduction for the cost of meeting the options at the time of exercise. The first line (V0) gives the original value of the company and the second line (number of shares) gives the original number of shares. The third line (number of options) indicates the number of options granted to employees. The fourth line (strike price) shows the price per share that employees pay if they exercise their options. This is assumed to equal the original share value, which equals the original value of the company divided by the original number of shares. Line 5 shows the increase in the value of the company resulting from its net of tax investment returns between grant and exercise.

Table 1.1. **Stock options and salary assuming certainty**

	Stock options	Salary
1. V0	1 000	1 000
2. Number of shares	100	100
3. Number of options	20	–
4. Strike price	10	–
5. ∆ (market return)	**10**	**10**
6. Cost of meeting options or salary	1.79	1.79
7. Tax deduction value	0.71	0.71
8. Cost net of taxes	1.07	1.07
9. V1 before exercise	1 010.00	1 008.93
10. V2 after exercise	1 210.71	–
11. V2 per share	10.09	10.09
12. Gain per share	0.09	0.09
13. Old shareholders' total gain	8.93	8.93
14. Total SO compensation/salary	**1.79**	**1.79**

Corporation tax rate = 40%. Stock options met with newly issued shares.

Lines 6-10 of Table 1.1 then calculate the effect of the stock options on the value of the company. Line 6 reports the cost of meeting the options (the value of the shares at exercise minus the strike price, multiplied by the number of options).[1] Line 7 reports the value of the corporate tax deduction (at 40%) that the company obtains and line 8 reports the cost net of taxes. Line 9 reports the value of the company after its investment returns but before the stock options are exercised. Line 10 then shows the effect on the company's value of the exercise of the stock options: adding the amount paid for the shares by the employees (20 x 10 = 200) and the value of the tax deduction. Note that the cost of meeting the shares is not deducted as it is an opportunity cost (the lost opportunity to sell the newly issued shares at their full market price) rather than a cash cost.

Line 11 of Table 1.1 reports the value of each share after exercise (1210.71/120) and line 12 reports the difference between this and the original share price. Line 13 multiplies this difference by the number of original shares to obtain the gain to the original shareholders, while line 14 multiplies the difference by the number of options to obtain the value of the stock option compensation.[2]

The "Salary" column of Table 1.1 reports equivalent calculations for a cash salary payment with the same value to the employee. This shows that the same tax treatment for stock options and salary at the corporate level (deduction) ensures tax neutrality, as the per-share value (10.09) of the company is the same under the stock option scheme (after exercise) and the ordinary salary scheme.

Table 1.2 illustrates the case where, unlike salary, stock options are not deductible from the corporate income tax base. Column A shows the same situation as Table 1.1 and column B shows the effect of removing the deduction. Given the same stock option scheme, the non-deduction (and thus the zero value of the stock option tax deduction) reduces the value of the compensation from 1.79 to 1.67. The no-deduction is also reflected in a lower per-share value (10.08) of the company (column B). The employee would be prepared to accept this stock option scheme, by giving up only 1.67 of salary (column C).

Table 1.2. **Stock options and salary assuming certainty**

	A Stock options Deduction	B Stock options No deduction	C Salary (equivalent)	D Stock options No deduction	E Salary (equivalent)
1. V0	1 000	1 000	1 000	1 000	1 000
2. Number of shares	100	100	100	100	100
3. Number of options	20	20	–	21.8	–
4. Strike price	10	10	–	10	–
5. ∆ (market return)	**10**	**10**	**10**	**10**	**10**
6. Cost of meeting options or salary	1.79	1.67	1.67	1.79	1.79
7. Tax deduction value	0.71	0	0.67	0	0.72
8. Cost net of taxes	1.07	1.67	1.00	1.79	1.07
9. V1 before exercise	1 010	1 010	1 009	1 010	1 008.93
10. V2 after exercise	1 210.71	1 210.00	–	1 228.00	–
11. V2 per share	10.089	10.08	10.09	10.08	10.09
12. Gain per share	0.089	0.08	0.09	0.08	0.09
13. Old shareholders' total gain	8.93	8.33	9.00	8.21	8.93
14. Total SO compensation/salary	**1.79**	**1.67**	**1.67**	**1.79**	**1.79**

Corporation tax rate = 40%. Stock options met with newly issued shares.

In the absence of stock option deduction, tax neutrality is no longer achieved. In order to grant the same compensation to the employee (1.79), the stock options scheme has to be changed. A higher number of options have to be granted (from 20 to 21.8, column D). The lack of tax neutrality is shown by the fact that the (after exercise) per-share value (10.08) is lower than in the case of salary (column E). The new stock option scheme grants the employee the same compensation, but at the expense of a lower company value.

3. Introducing personal level taxation

This section introduces personal level taxation into the analysis. This can be interpreted simply as personal income tax, or as personal income tax plus employees' social security contributions. These personal taxes are represented simply as an effective marginal tax rate. It is, therefore, assumed that the granting of stock options does not move the employee over any tax rate threshold. Employers' social security contributions have not been included in the analysis in order to keep it as simple as possible.

Column A of Table 1.3a shows the results of adding personal taxes of 20% to the stock option case presented in Table 1.1. As can be seen, this is a simple matter of adding two extra lines at the bottom of the table. The salary case is not repeated in Table 1.3a, as the neutrality extends naturally to the case with personal taxation provided that personal tax rates are the same for stock options and salary.

The more interesting issue related to personal taxation is the question of whether non-neutrality of personal taxes can offset non-neutrality at the corporate level to produce a result that is neutral overall. Columns B, C and D are designed to address that issue. Column B shows the effect of not granting the corporate tax deduction. This lowers the value of the company and, therefore, of the stock options. This means that both the

Table 1.3a. **Stock options and salary assuming certainty**

	A Stock options	B Stock options	C Stock options	D Stock options
	Standard case 20% personal 40% corporate	No corporate deduction	Partial equivalence 14.3% personal	Full equivalence Minus 33.3% personal
1. V0	1 000	1 000	1 000	1 000
2. Number of shares	100	100	100	100
3. Number of options	**20**	**20**	**20**	**12**
4. Strike price	10	10	10	10
5. Δ (market return)	**10**	**10**	**10**	**10**
6. Cost of meeting options or salary	1.79	1.67	1.67	1.07
7. Tax deduction value	0.71	0	0	0
8. Cost net of taxes	1.07	1.67	1.67	1.07
9. V1 before exercise	1 010.00	1 010.00	1 010.00	1 010.00
10. V2 after exercise	1 210.71	1 210.00	1 210.00	1 130.00
11. V2 per share	10.089	10.083	10.083	10.089
12. Gain per share	0.089	0.083	0.083	0.089
13. Old shareholders' total gain	8.93	8.33	8.33	8.93
14. Total SO compensation/salary	1.79	1.67	1.67	1.07
15. Taxes at employee personal level	0.36	0.33	0.24	–0.36
16. Total net SO compensation/salary	**1.43**	**1.33**	**1.43**	**1.43**

Corporation tax rate = 40%, personal tax rate = 20%. Stock options met with newly issued shares.

Table 1.3b. **Stock options and salary assuming certainty**

	A Stock options Standard case 40% personal 20% corporate	B Stock options No corporate deduction	C Stock options Partial equivalence 37.93% personal	D Stock options Full equivalence 25% personal
1. V0	1 333.33	1 333.33	1 333.33	1 333.33
2. Number of shares	100.00	100.00	100.00	100.00
3. Number of options	20.00	20.00	20.00	16.01
4. Strike price	13.33	13.33	13.33	13.33
5. Δ (market return)	13.33	13.33	13.33	13.33
6. Cost of meeting options or salary	2.30	2.22	2.22	1.84
7. Tax deduction value	0.46	0.00	0.00	0.00
8. Cost net of taxes	1.84	2.22	2.22	1.84
9. V1 before exercise	1 346.67	1 346.67	1 346.67	1 346.67
10. V2 after exercise	1 613.79	1 613.33	1 613.33	1 560.14
11. V2 per share	13.45	13.44	13.44	13.45
12. Gain per share	0.11	0.11	0.11	0.11
13. Old shareholders' total gain	11.49	11.11	11.11	11.49
14. Total SO compensation/salary	2.30	2.22	2.22	1.84
15. Taxes at employee personal level	0.92	0.89	0.84	0.46
16. Total net SO compensation/salary	**1.38**	**1.33**	**1.38**	**1.38**

Corporation tax rate = 20%, personal tax rate = 40%. Stock options met with newly issued shares.

original shareholders and the recipients of the stock options are worse off than under neutral taxation. Column C shows the effect of reducing the personal tax rate to restore the stock option recipients to the same after-tax position as in column A, assuming that the number of stock options remains the same. However, it should be noted that the value of the company after exercise is still lower than in column A, so that the original shareholders are worse off and there is not overall neutrality.

In order to achieve overall neutrality, it is necessary to lower the personal tax rate even further, so that the company can issue fewer stock options and still provide the same after-tax benefit to the stock option recipients. This is shown in column D, where the necessary personal tax rate is negative. However, a comparison with column A shows that the taxes have altered the number of options and the value of the company.

In order to understand this result more fully, it should be noted that the personal tax (Tp) produces a wedge between the net stock option compensation (line 16) and the total stock option compensation (line 14), which also equals the cost of meeting the options (line 6). At the same time, the corporate tax deduction rate (Tc) produces a wedge between the cost of meeting the options (line 6) and the cost net of taxes (line 8). Stated mathematically:

$$\text{line 16} = (1 - Tp) \times \text{line 6} \;\text{ and line 8} = (1 - Tc) \times \text{Line 6, so that line 8} = \text{line 16} \times (1 - Tc)/(1 - Tp)$$

It is line 8 that really affects the value of the company, as it is the after tax cost of the stock options, while it is line 16 that really matters to the stock option recipients. Thus, it is the ratio between the two – (1 – Tc)/(1 – Tp) – that is the cost-benefit ratio of the stock options. In column A, this ratio is 0.75 (= (1 – 0.4)/(1 – 0.2)). This corresponds to neutrality, as it is the same ratio that applies to ordinary salaries. In column B, this ratio increases to 1.25, so that non-neutrality arises. Column C represents a partial removal of that non-

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neutrality, but complete neutrality is only achieved in Column D, where the value of the ratio returns to 0.75 (= 1/1.333).

Finally, it should be noted that a negative personal tax would not have been required in column D if, in the original case (column A), the personal tax rate had been higher than the corporate tax rate. In that case, the initial cost-benefit ratio would have been larger than 1, implying that the restored neutrality in column D would also have a ratio larger than 1. This result is shown in Table 1.3b, which makes the same assumptions as Table 1.3a, except that the corporate tax rate is 20% and the personal tax rate is initially 40%. Note that the reduction in the rate of corporation tax results in an increase in the value of the firm and the after-tax market return.

4. Introducing uncertainty

In this section, uncertainty is introduced in the simplest possible way. It is assumed that there are two possible values of the company's shares at the time the options can be exercised, depending on the return on the company's investments. In one case, the returns are above average and the options are "in the money", shown in column A. In the case, shown in column B, the returns are below average and the options are "out of the money". It is assumed that the two outcomes are equally likely, and that the expected share value immediately before exercise is equal to that in the examples above.[3] For the purposes of Tables 1.4a and 1.4b (for different combinations of personal and corporate tax rates), it is also assumed that taxation (and the allowance of the corporate deduction) takes place at exercise, so that the taxes paid depend on which outcome occurs. Throughout this section and the following section, it is assumed that the company obtains a full deduction for the costs of the stock options and that employees are subject to the same rates of tax on stock option benefits as on ordinary salary.

Table 1.4a. **Stock options and salary with uncertainty: taxation at exercise**

	A	B	C	D
	Stock options In the money	Stock options Out of the money	Stock options Expected value	Salary Expected value
1. V0	1 000	1 000	1 000	1 000
2. Number of shares	100	100	100	100
3. Number of options	**20**	**20**	**20**	
4. Strike price	10	10	10	
5. ∆ (market return)	**25**	**–5**	**10**	**10**
6. Cost of meeting options or salary	4.46	0	2.23	2.23
7. Tax deduction value	1.79	0	0.89	0.89
8. Cost net of taxes	2.68	0	1.34	1.34
9. V1 before exercise	1 025.00	995.00	1 010.00	1 008.66
10. V2 after exercise	1 226.79	995.00	1 110.89	
11. V2 per share	10.223	9.95	10.087	10.087
12. Gain per share	0.223	–0.05	0.087	0.087
13. Old shareholders' total gain	22.32	–5.00	8.66	8.66
14. Total SO compensation/salary	4.46	0	2.23	2.23
15. Taxes at employee personal level	0.89	0	0.45	0.45
16. Total net SO compensation/salary	**3.57**	**0**	**1.79**	**1.79**

Corporation tax rate = 40%, personal tax rate = 20%. Stock options met with newly issued shares.

Table 1.4b. **Stock options and salary with uncertainty: taxation at exercise**

	A Stock options In the money	B Stock options Out of the money	C Stock options Expected value	D Salary Expected value
1. V0	1 333.33	1 333.33	1 333.33	1 333.33
2. Number of shares	100.00	100.00	100.00	100.00
3. Number of options	20.00	20.00	20.00	
4. Strike price	13.33	13.33	13.33	
5. ∆ (market return)	**33.33**	**–6.67**	**13.33**	**13.33**
6. Cost of meeting options or salary	5.75	0.00	2.87	2.87
7. Tax deduction value	1.15	0.00	0.57	0.57
8. Cost net of taxes	4.60	0.00	2.30	2.30
9. V1 before exercise	1 366.67	1 326.67	1 346.67	1 344.37
10. V2 after exercise	1 634.48	1 326.67	1 480.57	
11. V2 per share	13.62	13.27	13.44	13.44
12. Gain per share	0.29	–0.07	0.11	0.11
13. Old shareholders' total gain	28.74	–6.67	11.03	11.03
14. Total SO compensation/salary	5.75	0.00	2.87	2.87
15. Taxes at employee personal level	2.30	0.00	1.15	1.15
16. Total net SO compensation/salary	**3.45**	**0.00**	1.72	1.72

Corporation tax rate = 20%, personal tax rate = 40%. Stock options met with newly issued shares.

At the time that the options are issued, nobody knows which outcome will occur and so (provided that the company is risk-neutral) the company is interested in the expected value of the outcomes. This expected outcome is presented in column C. It is interesting to note that the expected stock option benefit is greater in this case than in the case with certainty. This is because of the asymmetry between the positive and negative returns. The positive returns are fully reflected in the stock option benefit, while the negative returns are not.

The issue of neutrality can be examined by comparing column C with the situation that would occur if the workers were paid the same certain salary as the expected stock option benefit (column D). A comparison of columns C and D shows that the value of the company will be the same in either case, just as the after-tax salaries and stock option benefits are the same. Thus, we can conclude that the taxation of stock options is neutral in this case.

Tables 1.5a and 1.5b present an analysis of the same case, except that taxation now takes place at grant on the basis of the fair market value of the options. This implies that personal taxes and the company tax deductions allowed are based on the expected value of the benefit, and is therefore the same whether the options are "in" or "out of the money".

As in the case of tax at exercise, a comparison of columns C and D shows that the taxation of stock options in neutral in this case. However, it is interesting to note that the expected stock option compensation is slightly lower than in the case of tax at exercise. This is because the value of the tax deduction is lower in the "in the money" case than when tax is at exercise. This reduces the "in the money" value of the shares and so of the stock options. Of course, this is balanced by a higher deduction in the "out of the money" case, so that the share value does not fall as much as in Tables 1.4a and 1.4b. However, this does not affect the value of the options at exercise because they are worthless. It is also worth noting that the expected old shareholders' total gain (line 13, column C) is slightly

Table 1.5a. **Stock options and salary with uncertainty: taxation at grant**

	A Stock options In the money	B Stock options Out of the money	C Stock options Expected value	D Salary Expected value
1. V0	1 000	1 000	1 000	1 000
2. Number of shares	100	100	100	100
3. Number of options	**20**	**20**	**20**	
4. Strike price	10	10	10	
5. Δ (market return)	**25**	**–5**	**10**	**10**
6. Cost of meeting options or salary	2.16	2.16	2.16	2.16
7. Tax deduction value	0.86	0.86	0.86	0.86
8. Cost net of taxes	1.29	1.29	1.29	1.29
9. V1 before exercise	1 025.86	995.86	1 010.86	1 008.71
10. V2 after exercise	1 225.86	995.86	1 110.86	
11. V2 per share	10.22	9.96	10.09	10.09
12. Gain per share	0.215	–0.041	0.087	0.087
13. Old shareholders' total gain	21.55	–4.14	8.71	8.71
14. Total SO compensation/salary	4.31	0	2.16	2.16
15. Taxes at employee personal level	0.43	0.43	0.43	0.43
16. Total net SO compensation/salary	**3.88**	**–0.43**	**1.72**	**1.72**

Corporation tax rate = 40%, personal tax rate = 20%. Stock options met with newly issued shares.

Table 1.5b. **Stock options and salary with uncertainty: taxation at grant**

	A Stock options In the money	B Stock options Out of the money	C Stock options Expected value	D Salary Expected value
1. V0	1 333.33	1 333.33	1 333.33	1 333.33
2. Number of shares	100.00	100.00	100.00	100.00
3. Number of options	20.00	20.00	20.00	
4. Strike price	13.33	13.33	13.33	
5. Δ (market return)	33.33	–6.67	13.33	13.33
6. Cost of meeting options or salary	2.82	2.82	2.82	2.82
7. Tax deduction value	0.56	0.56	0.56	0.56
8. Cost net of taxes	2.26	2.26	2.26	2.26
9. V1 before exercise	1 367.23	1 327.23	1 347.23	1 344.41
10. V2 after exercise	1 633.90	1 327.23	1 480.56	
11. V2 per share	13.62	13.27	13.44	13.44
12. Gain per share	0.28	–0.06	0.11	0.11
13. Old shareholders' total gain	28.25	–6.10	11.07	11.07
14. Total SO compensation/salary	5.65	0.00	2.82	2.82
15. Taxes at employee personal level	1.13	1.13	1.13	1.13
16. Total net SO compensation/salary	**4.52**	**–1.13**	1.69	1.69

Corporation tax rate = 20%, personal tax rate = 40%. Stock options met with newly issued shares.

higher than in Tables 1.4a and 1.4b. This is the counterpart to the lower level of stock option compensation. In fact, the company could obtain exactly the same expected results under taxation at grant as at exercise if it issued slightly more stock options.

5. Introducing possible different productivity

In the previous sections, the analysis has been based on the assumption that the issuing of stock options does not increase the productivity of the company. In the present section this assumption is removed. The main aim of this extension is to evaluate – within the uncertainty framework – the difference between taxing at exercise and at grant and if the taxation of stock options is neutral compared with the taxation of ordinary salary when the issuing of stock options can increase the productivity of the company.

A simple way to introduce the issue in the analysis is to assume that the employee can provide a "normal" effort level or an "additional" effort. The different effort levels can be represented in the analysis in terms of changes in the distribution of probability of different outcomes: with "normal" efforts all outcomes ("out of the money" and "in the money") are equally likely, while "additional" efforts increase the probability of positive outcomes ("in the money") and reduces the probability of negative outcomes ("out of the money").

Given the aim of this analysis, it is not necessary to represent the relation between the company and the employee as a principal-agent relationship in the presence of asymmetric information.[4] It can be assumed that the company and the employee share the same level of information.

Compared with the previous section, allowing for additional efforts by the employee means that the probability of the "in the money" outcome increases (for instance from 50 to 70 per cent), while the probability of the "out of the money" outcome decreases (for instance from 50 to 30 per cent). Assuming taxation at exercise, Tables 1.6a and 1.6b (column A) show the same situation as Tables 1.4a and 1.4b (column C), while column B shows the expected value of stock options in the presence of additional efforts by the employee. Finally, in order to ascertain if the taxation of stock options is neutral, the cash equivalent is also calculated assuming the same higher productivity (column C).

Table 1.6a. **Stock options with additional productivity: taxation at exercise**

	A Stock options Expected value Normal productivity	B Stock options Expected value Additional productivity	C Cash Equivalent
1. V0	1 000	1 000	1 000
2. Number of shares	100	100	100
3. Number of options	20	20	
4. Strike price	10	10	
5. Δ (market return)	10	**16**	16
6. Cost of meeting options or salary	2.23	3.12	3.12
7. Tax deduction value	0.89	1.25	1.25
8. Cost net of taxes	1.34	1.87	1.87
9. V1 before exercise	1 010.00	1 016.00	1 014.13
10. V2 after exercise	1 110.89	1 157.25	
11. V2 per share	10.087	10.14	10.14
12. Gain per share	0.087	0.14	0.14
13. Old shareholders' total gain	8.66	14.12	14.12
14. Total SO compensation/salary	2.23	3.12	3.12
15. Taxes at employee personal level	0.45	0.62	0.62
16. Total net SO compensation/salary	**1.79**	**2.50**	**2.50**

Corporation tax rate = 40%, personal tax rate = 20%. Stock options met with newly issued shares.

Table 1.6b. **Stock options with additional productivity: taxation at exercise**

	A Stock options Expected value Normal productivity	B Stock options Expected value Additional productivity	C Cash Equivalent
1. V0	1 333.33	1 333.33	1 333.33
2. Number of shares	100.00	100.00	100.00
3. Number of options	20.00	20.00	
4. Strike price	13.33	13.33	
5. Δ (market return)	13.33	21.33	21.33
6. Cost of meeting options or salary	2.87	4.02	4.02
7. Tax deduction value	0.57	0.80	0.80
8. Cost net of taxes	2.30	3.22	3.22
9. V1 before exercise	1 346.67	1 354.67	1 351.45
10. V2 after exercise	1 480.57	1 542.14	
11. V2 per share	13.44	13.51	13.51
12. Gain per share	0.11	0.18	0.18
13. Old shareholders' total gain	11.03	18.11	18.11
14. Total SO compensation/salary	2.87	4.02	4.02
15. Taxes at employee personal level	1.15	1.61	1.61
16. Total net SO compensation/salary	1.72	2.41	2.41

Corporation tax rate = 20%, personal tax rate = 40%. Stock options met with newly issued shares.

The higher productivity is reflected in higher stock option expected values as well as in higher company values. Given the new expected values, column C shows that the taxation of stock options is neutral even in this case.

Tables 1.7a and 1.7b present the analysis of the same case except that taxation takes place at grant. As in the previous section (Tables 1.5a and 1.5b), the tax base is the fair market value of the options. It can be argued that this value will be the same as in the case of absence of possible higher productivity because the market' does not share the same information as employees (and employers). Thus, in column B the market value of stock options at the time of grant is determined assuming "normal" productivity.

However column D also shows the case where at the time of grant the "market" evaluates the stock options assuming higher productivity.

Column A shows the same situation as column C in Tables 1.5a and 1.5b (uncertainty, taxation at grant, normal productivity), while column B shows the expected value of stock options in the presence of additional efforts by the employee. Finally, in order to ascertain if the taxation of stock options is neutral, the cash equivalent for the employee is also calculated (column E) assuming the same higher productivity.

As in Tables 1.6a and and 1.6b the higher productivity is reflected in higher stock option expected values and a higher per-share company value (from 10.09 to 10.14).

Two main additional results come from Tables 1.7a and 1.7b:

- Columns B and C show non-neutrality of taxing stock options at grant when the effect on productivity is not captured in the value of options.
- In contrast, columns D and E show that neutrality returns if the effect on productivity is captured in the value of options.

Table 1.7a. **Stock options with additional productivity: taxation at grant**

	A Stock options Expected value Normal productivity	B Stock options Expected value Additional productivity	C Cash Equivalent	D Stock options Expected value Additional productivity[1]	E Cash equivalent
1. V0	1 000	1 000	1 000	1 000	1 000
2. Number of shares	100	100	100	100	100
3. Number of options	20	20		20	
4. Strike price	10	10		10	
5. Δ (market return)	10	**16**	16	16	16
6. Cost of meeting options or salary	2.16	2.16	3.23	3.06	3.06
7. Tax deduction value	0.86	0.86	1.29	1.22	1.23
8. Cost net of taxes	1.29	1.29	1.94	1.84	1.84
9. V1 before exercise	1 010.86	1 016.86	1 014.06	1 017.22	1 014.16
10. V2 after exercise	1 110.86	1 156.86		1 157.22	
11. V2 per share	10.09	10.138	10.14	10.14	10.14
12. Gain per share	0.087	0.138	0.14	0.14	0.14
13. Old shareholders' total gain	8.71	13.84	14.06	14.16	14.16
14. Total SO compensation/salary	2.16	3.02	3.23	3.06	3.06
15. Taxes at employee personal level	0.43	0.43	0.65	0.61	0.61
16. Total net SO compensation/salary	**1.72**	**2.59**	2.59	2.45	2.45

Corporation tax rate = 40%, personal tax rate = 20%. Stock options met with newly issued shares.
1. In this case the market value of stock options at the time of grant is determined assuming "higher" productivity.

Table 1.7b. **Stock options with additional productivity: taxation at grant**

	A Stock options Expected value Normal productivity	B Stock options Expected value Additional productivity	C Cash Equivalent	D Stock options Expected value Additional productivity[1]	E Cash equivalent
1. V0	1 333.33	1 333.33	1 333.33	1 333.33	1 333.33
2. Number of shares	100.00	100.00	100.00	100.00	100.00
3. Number of options	20.00	20.00		20.00	
4. Strike price	13.33	13.33		13.33	
5. Δ (market return)	13.33	21.33	21.33	21.33	21.33
6. Cost of meeting options or salary	2.82	2.82	4.71	3.98	3.98
7. Tax deduction value	0.56	0.56	0.94	0.80	0.80
8. Cost net of taxes	2.26	2.26	3.77	3.19	3.19
9. V1 before exercise	1 347.23	1 355.23	1 350.90	1 355.46	1 351.48
10. V2 after exercise	1 480.56	1 541.90		1 542.13	
11. V2 per share	13.44	13.51	13.51	13.51	13.51
12. Gain per share	0.11	0.18	0.18	0.18	0.18
13. Old shareholders' total gain	11.07	17.94	17.57	18.15	18.15
14. Total SO compensation/salary	2.82	3.95	4.71	3.98	3.98
15. Taxes at employee personal level	1.13	1.13	1.88	1.59	1.59
16. Total net SO compensation/salary	1.69	2.82	2.82	2.39	2.39

Corporation tax rate = 20%, personal tax rate = 40%. Stock options met with newly issued shares.
1. In this case the market value of stock options at the time of grant is determined assuming "higher" productivity.

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6. Introducing employees' risk aversion

In this section, we consider the issue of the employee's propensity to engage in risk-taking. We assume that while the company is risk neutral, the employee is risk-averse. Risk aversion means that the employee values stock options at less than their market value.

It follows that there is a disparity between the real cost of the stock options compensation (C) for the company and the value of the benefit (B) for the employee (C > B). The cost-to-benefit ratio (B/C) is inversely related to the degree of risk aversion of the employee.

If we assume that the issuing of the stock options does not increase the productivity of the company, in order to grant the employee the same net compensation, paying cash compensation (salary) is more efficient for the company than granting stock options. But the company can have incentives to grant stock options if they increase the company's productivity sufficiently to compensate the company for the higher costs associated with stock options.

First, we analyse the issue of risk aversion and productivity assuming the absence of taxation; then corporate and personal income taxation is considered.

Table 1.8 illustrates the case of risk aversion assuming the absence of (corporate and personal) taxes. Column A shows the expected value of the stock options, calculated as in Table 1.4a (uncertainty), but assuming the absence of taxes (so that the value of the company and the after-tax rate of return increase). In the example, the stock options' compensation is now discounted at 50 per cent because of risk aversion; this is shown by adding an extra line (line 17) at the bottom of the table. In the presence of risk aversion the discounted value of stock options compensation decreases from 2.23 to 1.12.

Compared with salary (column B), the employee's risk aversion reduces the net compensation deriving from the stock options, all else equal. Alternatively, the same net value could be granted to the employee in a more efficient way for the company by paying an equivalent cash salary. In that case (not shown), the lower cost to the company would increase the value (per share) of the company and the old shareholders' total gain.

Given the risk aversion, the employee is prepared to accept the stock options scheme (and to give up the certain cash equivalent) only if the scheme grants the same discounted compensation. This means that the employee requires a higher compensation in terms of a higher number of stock options, all else equal.

The third column of Table 1.8 shows that the number of stock options has to be increased from 12 to 27.3 to be able to grant the employee the same net cash equivalent. In this case, the higher gross compensation that must be granted to the employee is compensated by an equal reduction in old shareholders' total gain. But from the perspective of the company, this stock options scheme is unattractive compared with paying an equivalent cash salary (column B). The company would be interested in granting the scheme only if it can expect a sufficient higher productivity.

Column D of Table 1.8 shows how much the productivity of the company must increase in order to compensate the company for the higher costs of the stock option scheme. For a market return equal to 19.39, the company is indifferent as regards granting the scheme or paying the cash salary.[5] For expected levels of productivity higher than this, the scheme is always preferable for the company (and the employee) to the salary.

However, the discounted compensation in column D is higher than required to persuade workers to accept the stock option scheme and increase productivity. Therefore, an intermediate equilibrium is possible, where employees have sufficient incentive to accept stock options but the company reduces the number of stock options and maintains its profits with a lower market return (productivity).

Column E shows the intermediate equilibrium where a specific combination of the additional number of stock options and the level of additional productivity makes the results for both the company and the employee equivalent to the case of ordinary salary. It means that the company can be compensated entirely for the higher costs and the employee for risk aversion. In fact, comparing column E with column B, the company value and old shareholders' total gains are the same and the employee net compensation is also the same. For both the company and the employee, stock options that produce levels of productivity (rate of return) higher than 18.9 are always preferable to paying/receiving the ordinary salary.

Table 1.8. **Stock options with risk aversion: absence of taxation**

	A Stock options Expected value	B Salary (cash equivalent)	C Stock options Higher SO number	D Stock options Higher productivity	E Stock options Intermediate equilibrium
1. V0	1 666.67	1 666.67	1 666.67	1 666.67	1 666.67
2. Number of shares	100.00	100.00	100.00	100.00	100.00
3. Number of options	12.00		**27.30**	**27.30**	**24.50**
4. Strike price	16.67		16.67	16.67	16.67
5. Δ (market return)	16.67	16.67	16.67	**19.39**	**18.90**
6. Cost of meeting options or salary	2.23	2.23	4.47	4.95	4.47
7. Tax deduction value	0.00	0.00	0.00	0.00	0.00
8. Cost net of taxes	2.23	2.23	4.47	4.95	4.47
9. V1 before exercise	1 683.33	1 681.10	1 683.33	1 686.06	1 685.56
10. V2 after exercise	1 783.33		1 910.83	1 938.36	1 907.94
11. V2 per share	16.81	16.81	16.79	16.81	16.81
12. Gain per share	0.14	0.14	0.12	0.14	0.14
13. Old shareholders' total gain	14.43	14.43	12.20	14.44	14.43
14. Total SO compensation/salary	2.23	2.23	4.47	4.95	4.47
15. Taxes at employee personal level	0.00	0.00	0.00	0.00	0.00
16. Total net SO compensation/salary	2.23	2.23	4.47	4.95	4.47
17. Discounted compensation/salary value	1.12	2.23	2.23	2.48	2.23

Tables 1.9a and 1.9b show the same case as Table 1.8, but include corporate and personal income taxation and assume that stock options are taxed at exercise. The number of stock options has been adjusted to provide the same total stock option compensation (line 14) as in Table 1.8.

Column A reports the expected value of stock options when taxation takes place at exercise and shows the discounted value in the presence of risk aversion (line 17). Column B shows the equivalent (for the company) cash salary scheme.

In the presence of risk aversion, the same cost for the company corresponds to a lower stock options benefit for the employee. In other words, the same benefit to the employee can be granted at a lower cost for the company by paying ordinary salary.

Column C shows how much the number of stock options granted to the employee has to be increased in order to compensate for the risk aversion. Increasing the number of

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stock options allows the employee to receive the same expected compensation as in the case of no risk aversion (cash equivalent). But for the company this means higher costs that are reflected in a lower value per share (after exercise) and lower old shareholders' total gain.

Column D shows how much the expected productivity of the company must increase in order to compensate the company for the higher costs. For a productivity level equal to 11.63, the company is indifferent as regards granting the scheme or paying the cash salary. For expected levels of productivity higher than 11.63, the scheme is always preferable for the company (and the employee) to the salary.

Column E shows the possible intermediate equilibrium where a lower number of stock options are issued and the lower expected productivity increase makes the stock option just as attractive as salary (column B).

In order to assess whether taxation is neutral in these cases, it is necessary to analyse whether the productivity (market return) increases required to make stock options attractive are the same with and without taxes. Without taxes (Table 1.8), the required increase in the before-tax rate of return was 2.23 (= 18.90 – 16.67). This translates into an increase in the after-tax rate of return of 1.34 with a 40% rate of corporation tax and 1.79 with a 20% rate of corporation tax. Within the range of rounding errors, these correspond to the required increases in market return shown in Tables 1.9a and 1.9b respectively. Thus, in these cases, tax does not distort the choice about whether to introduce stock options, and so can be regarded as neutral.

Tables 1.10a and 1.10b present an analysis of the same cases, except that taxation of stock options now takes place at grant. Again, stock option numbers are adjusted to keep total stock option compensation the same as in Table 1.8. Columns A and B report the results

Table 1.9a. **Stock options with risk aversion: taxation at exercise**

	A Stock options Expected value	B Salary (cash equivalent)	C Stock options Higher SO number	D Stock options Higher productivity	E Stock options Intermediate equilibrium
1. V0	1 000	1 000	1 000	1 000.0	1 000.0
2. Number of shares	100	100	100	100.0	100.0
3. Number of options	20		**45.45**	45.45	40.83
4. Strike price	10		10	10	10
5. Δ (market return)	10	10	10	**11.63**	11.34
6. Cost of meeting options or salary	2.23	2.23	4.46	4.95	4.47
7. Tax deduction value	0.89	0.89	1.79	1.98	1.79
8. Cost net of taxes	1.34	1.34	2.68	2.97	2.68
9. V1 before exercise	1 010.00	1 008.66	1 010.00	1 011.63	1 011.34
10. V2 after exercise	1 110.89		1 239.06	1 265.58	1 235.54
11. V2 per share	10.09	10.09	10.07	10.09	10.09
12. Gain per share	0.09	0.09	0.07	0.09	0.09
13. Old shareholders' total gain	8.66	8.66	7.32	8.66	8.66
14. Total SO compensation/salary	2.23	2.23	4.46	4.95	4.47
15. Taxes at employee personal level	0.45	0.45	0.89	0.99	0.89
16. Total net SO compensation/salary	1.79	1.79	3.57	3.96	3.57
17. Discounted compensation/salary value	0.89	1.79	1.79	1.98	1.79

Corporation tax rate = 40%, personal tax rate = 20%. Stock options met with newly issued shares.

Table 1.9b. **Stock options with risk aversion: taxation at exercise**

	A Stock options Expected value	B Salary (cash equivalent)	C Stock options Higher SO number	D Stock options Higher productivity	E Stock options Intermediate equilibrium
1. V0	1 333.33	1 333.33	1 333.33	1 333.33	1 333.33
2. Number of shares	100.00	100.00	100.00	100.00	100.00
3. Number of options	14.99		**34.05**	**34.05**	**30.58**
4. Strike price	13.33		13.33	13.33	13.33
5. Δ (market return)	13.33	13.33	13.33	**15.51**	**15.12**
6. Cost of meeting options or salary	2.23	2.23	4.46	4.94	4.46
7. Tax deduction value	0.45	0.45	0.89	0.99	0.89
8. Cost net of taxes	1.78	1.78	3.57	3.96	3.57
9. V1 before exercise	1 346.66	1 344.88	1 346.66	1 348.84	1 348.45
10. V2 after exercise	1 447.01		1 574.58	1 601.51	1 571.40
11. V2 per share	13.45	13.45	13.43	13.45	13.45
12. Gain per share	0.12	0.12	0.10	0.12	0.12
13. Old shareholders' total gain	11.55	11.55	9.76	11.55	11.55
14. Total SO compensation/salary	2.23	2.23	4.46	4.94	4.46
15. Taxes at employee personal level	0.89	0.89	1.78	1.98	1.78
16. Total net SO compensation/salary	1.34	1.34	2.68	2.97	2.68
17. Discounted compensation/salary value	0.67	1.34	1.34	1.48	1.34

Corporation tax rate = 20%, personal tax rate = 40%. Stock options met with newly issued shares.

where stock options are taxed at grant on their fair market value. As before, ordinary salary (cash equivalent for the company) gives the employee a higher net compensation.

The equivalents of columns C and D in Table 1.8 have been dropped from these tables, and two alternative intermediate equilibrium cases are shown: the first is based on a stock option valuation that includes the increased productivity, and the second on a valuation that does not include it.

In Intermediate equilibrium 1, Tables 1.10a and 1.10b show the same required market returns as Tables 1.9a and 1.9b respectively. Thus, once again, neutrality of taxation is confirmed. However, in line with the discussion of Table 1.7a, Intermediate equilibrium 2 shows that taxation will not be neutral if the stock option values do not recognise the productivity increase.

7. Summary

The results of this analysis can be summarised as follows:

- The allowance of stock option costs as a company tax deduction and the equal treatment of stock option benefits and ordinary salary at the personal level are sufficient to ensure neutrality between the taxation of stock options and ordinary salary. In other words, it ensures that taxes do not influence the choice between salary and stock options as a form of remuneration.
- This neutrality result applies under uncertainty if taxation takes place at exercise or if taxation applies at grant on the basis of the fair market value of the option.
- Neutrality is lost if a company tax deduction is not given and personal taxes remain equal for the two types of remuneration. However, it is possible to choose a (possibly negative) personal tax rate that would restore full neutrality.

Table 1.10a. **Stock options with risk aversion: taxation at grant**

	A Stock options Expected value	B Salary (cash equivalent)	C Stock options Intermediate equilibrium 1	D Stock options Intermediate equilibrium 2
1. V0	1 000.00	1 000	1 000.00	1 000.00
2. Number of shares	100.00	100	100.00	100.00
3. Number of options	**20.83**		**44.17**	**44.17**
4. Strike price	10.00		10.00	10.00
5. Δ (market return)	10.00	10	11.34	11.34
6. Cost of meeting options or salary	2.23	2.23	4.47	4.08
7. Tax deduction value	0.89	0.89	1.79	1.63
8. Cost net of taxes	1.34	1.34	2.68	2.45
9. V1 before exercise	1 010.89	1 008.66	1 013.13	1 012.97
10. V2 after exercise	1 115.07		1 253.66	1 253.51
11. V2 per share	10.09	10.09	10.09	10.09
12. Gain per share	0.09	0.09	0.09	0.09
13. Old shareholders' total gain	8.66	8.66	8.66	8.53
14. Total SO compensation/salary	2.23	2.23	4.47	4.44
15. Taxes at employee personal level	0.45	0.45	0.89	0.82
16. Total net SO compensation/salary	1.79	1.79	3.58	3.63
17. Discounted compensation/salary value	0.89	1.79	1.79	1.81

Corporation tax rate = 40%, personal tax rate = 20%. Stock options met with newly issued shares.

Table 1.10b. **Stock options with risk aversion: taxation at grant**

	A Stock options Expected value	B Salary (cash equivalent)	C Stock options Intermediate equilibrium 1	D Stock options Intermediate equilibrium 2
1. V0	1 333.33	1 333.33	1 333.33	1 333.33
2. Number of shares	100.00	100.00	100.00	100.00
3. Number of options	15.21		**31.45**	**31.45**
4. Strike price	13.33		13.33	13.33
5. Δ (market return)	13.33	13.33	15.12	15.12
6. Cost of meeting options or salary	2.23	2.23	4.46	4.09
7. Tax deduction value	0.45	0.45	0.89	0.82
8. Cost net of taxes	1.78	1.78	3.57	3.27
9. V1 before exercise	1 347.11	1 344.88	1 349.34	1 349.27
10. V2 after exercise	1 448.54		1 577.73	1 577.66
11. V2 per share	13.45	13.45	13.45	13.45
12. Gain per share	0.12	0.12	0.12	0.11
13. Old shareholders' total gain	11.55	11.55	11.55	11.48
14. Total SO compensation/salary	2.23	2.23	4.46	4.45
15. Taxes at employee personal level	0.89	0.89	1.78	1.63
16. Total net SO compensation/salary	1.34	1.34	2.68	2.82
17. Discounted compensation/salary value	0.67	1.34	1.34	1.41

Corporation tax rate = 20%, personal tax rate = 40%. Stock options met with newly issued shares.

- When risk aversion and productivity increases are introduced into the analysis, the neutrality results (above) continue to hold for taxation at exercise and for taxation at grant. In the case of taxation at grant, this neutrality depends on the stock option value at grant taking account of the productivity increase that the stock option plan will induce. If that productivity increase is not reflected in the valuation, taxation at grant will not be neutral.

Notes

1. The value of the shares at exercise depends in turn on the cost of meeting the options. So, the values in lines 6-14 have been obtained from solving simultaneous equations.
2. The simultaneous equations mentioned in footnote 2 require that the entry in line 14 equals the entry in line 6. Note that reported figures are rounded to two decimal places but that the calculations are performed without rounding.
3. Although the assumption of the two outcomes being equally likely is implausible, it is made for convenience and cannot be expected to affect the nature of the neutrality result. The assumption of only two outcomes is not, in fact, restrictive at all because each of these two outcomes can simply be regarded as the expected value of a range of, respectively, "in the money" and "out of the money" outcomes. There is no error involved in taking such expected values provided that the firm is risk neutral.
4. In the presence of asymmetric information the employer (company) does not know at the time of issuing which effort level will be really provided by the employee (for instance, the employee can suffer from disutility of effort that is not known by the employer).
5. It should be noted that in this case the higher productivity is also reflected in a higher net employee compensation (2.48).

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ANNEX 1.A1

The Algebra of Neutrality

The purpose of this short annex is to provide an algebraic demonstration of the main tax neutrality result on stock options, concentrating on the case in which employee stock options are taxed at exercise and a deduction against corporate tax is allowed even though the option calls are met with newly issued shares.

In this annex the following notation is used:

Tc = rate of corporate tax

G0 = gross (before-tax) initial value of the company (In the tables: V0 = (1 – Tc)*G0)

R = the gross (before-tax) market return (In the tables: Δ = (1 – Tc)*R)

C = total stock option compensation (before personal taxation)

V1 = net (after-tax) value of the company before options are exercised

V2 = net (after-tax) value of the company after options are exercised

No = number of stock options

Sp = the strike price

N1 = original number of shares

N2 = final number of shares

These definitions and the basic discussion in the paper imply the following:

V1 = (G0 + R) * (1 – Tc)

V2 = V1 + Sp * No + Tc * C

Sp = (1 – Tc) * G0/N1

C = (V2/N2 – Sp) * No

These can be combined to produce:

V2 = V1 + Sp * No + Tc * No * (V2/N2 – Sp), which can be re-arranged to become:

V2 * (1 – Tc * No/N2) = V1 + Sp * No – Tc * Sp * No

Substituting for V1, produces:

V2 * (1 – Tc * No/N2) = (G0 + R) * (1 – Tc) + Sp * No – Tc * Sp * No, which can be re-arranged to give:

V2 = (1 – Tc) * (G0 + R + Sp * No)/(1 – Tc * No/N2), or:

V2 = (1 – Tc) * (G0 + R + Sp * No) * (N1 + No)/(N1 + (1 – Tc) * No).

This final expression for V2 can be substituted into the expression for C, noting that N2 = N1 + No, to produce:

$C = No * [(1 - Tc) * (G0 + R + Sp * No)/(N1 + (1 - Tc) * No/N2) - Sp]$,

which can be re-arranged to become:

$C = No * [(1 - Tc) * (G0 + R + Sp * No) - N1 * Sp - (1 - Tc) * No * Sp]/(N1 + (1 - Tc) * No)$

As $N1 * Sp = (1 - Tc) * G0$ (from re-arranging the expression for Sp), this simplifies to:

$C = No * (1 - Tc) * R /(N1 + (1 - Tc) * No)$

Uncertainty can be introduced into this analysis, as in the text of the paper, by thinking of two possible values for R: Rh, with probability p, is the high value that puts the stock options "in the money"; Rl with probability (1-p), is the low value that puts the stock options "out of the money". The final expression for V2 can then be used to produce an expression for the expected final value per share of the company:

Expected share value $= (1 - Tc) * [(1 - p) * (G0 + Rl)/N1 + p * (G0 + Rh + Sp * No)/(N1 + (1 - Tc) * No)]$

This expression can be re-written as follows, using Re to represented the expected value of R ($Re = (1 - p) * Rl + p * Rh$) and the expression for Sp:

Expected share value $= (1 - Tc) * [(1 - p) * (G0 + Rl)/N1 + p * (G0 + Rh + \{(1 - Tc) * G0/N1\})/(N1 + (1 - Tc) * No)]$

This simplifies to:

Expected share value $= (1 - Tc) * [G0/N1 + (1 - p) * Rl/N1 + p * Rh/(N1 + (1 - Tc) * No)]$

Expected share value $= (1 - Tc) * [G0/N1 + Re/(N1 + (1 - Tc) * No) + (1 - p) * Rl * (1 - Tc) * No/(N1 * (N1 + (1 - Tc) * No))]$

Similarly, the expected stock option compensation can be derived, but this is simpler as the "out-of-the-money" compensation is zero. Thus:

Expected compensation $= Ce = p * No * (1 - Tc) * Rh /(N1 + (1 - Tc) * No)$, which can be re-written as:

$Ce = No * (1 - Tc) * [Re + p * Rh - (p * Rh + (1 - p) * Rl)]/(N1 + (1 - Tc) * No)$, which simplifies to:

$Ce = No * (1 - Tc) * [Re - (1 - p) * Rl)]/(N1 + (1 - Tc) * No)$

Dividing this by N1 produces:

$Ce/N1 = No * (1 - Tc) * [Re - (1 - p) * Rl)]/(N1 * (N1 + (1 - Tc) * No))$, which can be re-arranged as:

$No * (1 - Tc) * (1 - p) * Rl/(N1 *(N1 + (1-Tc)*No)) = No*(1-Tc)*Re/(N1*(N1 + (1-Tc)*No)) - Ce/N1$

This can be used to substitute for the last term in the expression for the expected share value, to give:

Expected share value $= (1 - Tc) * [G0/N1 + Re/(N1 + (1 - Tc) * No) + Re * (1 - Tc) * No/(N1 * (N1 + (1 - Tc) * No)) - Ce/N1]$

This can be simplified to produce:

Expected share value $= (1 - Tc) * [G0/N1 + Re * (N1 + (1 - Tc) * No)/(N1 * (N1 + (1 - Tc) * No)) - Ce/N1]$, or

Expected share value $= (1 - Tc) * [G0/N1 + Re * /N1 - Ce/N1]$

This final expression for the expected share value is exactly the same as would be obtained from the payment of compensation in the form of ordinary wages: the after-corporate tax value of the original value of the company plus the market return minus compensation of employees, all divided by the original number of shares. Thus, this expression shows that the allowance of a corporate tax deduction for stock options provides neutrality from a corporate point of view. It is then straightforward to deduce that the treatment of stock option gains in an identical way to ordinary salary at the personal level gives overall neutrality, which is the main result of the examples provided in the main text.

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Chapter 2

Effective Tax Rates

1. Introduction

The taxation of employee stock options and other incentive pay schemes differs in many important ways between the OECD countries. The aim of this chapter is twofold; first to illustrate and compare the main aspects of the tax treatment of stock options and incentive pay schemes in the OECD countries, and second to report the calculation of effective tax rates on stock options and compare them with the effective tax rates on ordinary salary in order to ascertain whether the tax systems are neutral or not with respect to the choice between granting stock options and paying ordinary salaries.

Section 2 provides a qualitative description of the tax treatment of employee stock options and other incentive pay schemes in the OECD countries. After a brief presentation of the existing schemes, the following main aspects are illustrated: the tax treatment of the stock options benefits for personal income tax and social security contribution purposes, and the tax treatment of the stock options costs at the corporate level. All the described tax regimes and data refer to the legislation in force in 2002.

Section 3 explains the methodology used to calculate effective tax rates on stock options. The methodology is based on the *Taxing Wages* framework, but extended to take account of the fact that the cost of stock options is not always allowed as a deduction against corporation tax. This framework offers the advantage of being widely accepted and understood. However, it should be noted that with regard to stock options this methodology is necessarily based on a simplified set of assumptions (principally the absence of uncertainty) that does not allow all the relevant aspects of the tax treatment of stock options to be taken into consideration. The section also reports the results of calculating effective tax rates for a single worker at 100% of the average production worker wage.

Section 4 compares those results with the tax wedge on ordinary wage income (drawn from *Taxing Wages*, 2002) in order to ascertain whether the tax system is neutral or not between these two forms of employee compensation. Finally, Section 5 reports the results and the comparison between stock options and salary for a single worker at 167% of the average production worker wage (APW).

The main results of the empirical analysis can be summarized as follows. In many countries (for instance Germany, Luxembourg, Sweden, Switzerland and Turkey), the tax treatment of stock options and salary is the same and thus the effective tax rates are identical for both average and higher levels of income. In some other countries the tax treatment is the same but only under certain conditions, mainly concerning the deductibility of stock options costs from the corporate income tax base. In all these countries the tax system is neutral between stock options and salary.

It is also frequent to find countries (for instance Australia, Canada, Denmark, France, Italy, Japan, Korea, Portugal, Spain and the UK) that in certain conditions or in certain schemes grant preferential tax treatment of stock options at the personal level, at the same time allowing deductibility at the corporate level. In these countries, the tax system is no longer neutral, as stock options are tax favoured. In these countries also, the tax advantage of stock options over salary frequently increases with income, that is to say, the difference between the tax wedges on stock options and salary is generally higher for higher levels of income than for average levels.

Finally, it is also frequent to find countries (for instance Canada, Finland, Japan, Mexico, Spain and the US) that in certain conditions or in certain schemes combine preferential tax treatment at the personal level with non-deductibility of stock options costs at the corporate level. In these countries, the tax system is generally not neutral. Depending on individual cases, the tax wedges on stock options can be higher or lower than on ordinary salary. In general in these countries, higher levels of income, compared with average incomes, frequently have a lower tax wedge on stock options than on salary.

2. Qualitative description of the tax treatments

In the OECD countries, there are different forms of employee stock options schemes and incentive pay schemes. Table 2.1 gives general information about the number of existing schemes. Within stock options plans, a distinction is made between "standard"

Table 2.1. **Stock options and incentive pay schemes**

Country	Standard schemes	Concessionary schemes	Other incentive pay schemes
Australia	X	X (two schemes)	–
Austria	X	–	–
Belgium	–	X	–
Canada	–	X (three schemes)	X
Czech Republic	X	–	–
Denmark	X	X (two schemes)	–
Finland	X	–	–
France	–	X (three schemes)	–
Germany	X	–	–
Greece	X	X	–
Hungary	X	–	X
Iceland	X	X	–
Ireland	X	X (two schemes)	–
Italy	X	X	X
Japan	X	–	–
Korea	X	X	–
Luxembourg	X (two schemes)	–	–
Mexico	X	–	X
Netherlands	X (two schemes)	–	–
New Zealand	X	–	–
Norway	X	–	–
Poland	X	–	–
Portugal	X	–	–
Slovak Republic	X	–	–
Spain	X	–	X
Sweden	X	–	–
Switzerland	X	–	–
Turkey	X	–	–
United Kingdom	X	X (three schemes)	X
United States	X	X (two schemes)	–

and “concessionary” schemes. All the countries, with the exception of Belgium, Canada and France, have a stock options scheme that can be considered “standard” from a tax point of view. Luxembourg and the Netherlands have two kinds of standard schemes.

Concessionary stock options schemes are present in Australia, Belgium, Canada, France, Greece, Iceland, Ireland, Italy, Korea, and the UK; Australia, Denmark, Ireland and the US have reported two kinds of concessionary schemes and Canada, France and the UK three kinds.

Finally, incentive pay schemes other than stock options schemes are reported in Canada, Hungary, Italy, Mexico, Spain and the UK.

2.1. Concessionary schemes

In those countries where a concessionary scheme exists, tax treatment is preferential only if certain conditions are met.

For instance, in *Australia*, qualifying conditions for the first concessionary scheme are that the options are acquired by a taxpayer under an employee share scheme; options are options over shares in the taxpayer's employer company or its holding company; options are options over ordinary shares; the taxpayer may not hold options over more than 5 per cent of the shares in the firm and after acquisition the taxpayer should not be in a position to cast, or control the casting of, more than 5 per cent of the maximum number of votes that might be cast at a general meeting of the company. For the second concessionary scheme, additional qualifying conditions apply for the taxpayer to be able to access the AUD 1 000 reduction: the scheme must not have any conditions that could lead to the taxpayer’s forfeiting ownership of the options; no recipient may dispose of the options acquired under it before three years from the time of acquisition or the time the taxpayer ceases to be employed by the company, whichever is earlier; and the scheme must be conducted on a non-discriminatory basis (that is, participation in the scheme is open to at least 75 per cent of permanent employees of the employer with at least three years’ service, the time for acceptance of each offer is reasonable and the essential features of each offer are the same for at least 75 per cent of permanent employees of the employer).

In *Canada*, the benefits deriving from public company schemes are eligible for a concessionary treatment subject to the following conditions: the employee must be dealing at arm’s length with the employer immediately after the options are granted; the share underlying the option must be an ordinary common share; and the exercise price of the option at the time of grant must be at least equal to the fair market value (FMV) of the underlying share. For private company schemes, the main conditions are: the employee must be dealing at arm's length with the employer immediately after the option is granted and the employee does not dispose of, or exchange, the shares for at least two years after the date the shares are acquired.

In *Denmark*, the first concessionary scheme has to fulfil the following requirements: *i)* the employee must not receive stock options worth more than 10 per cent of wage income; and *ii)* the scheme must be related to the shares of the firm where the employee works. The second concessionary scheme must fulfil the additional condition that the firm must give all the employees the possibility of choosing stock options as a partial replacement of ordinary wage income.

In *Iceland*, the main conditions for the concessionary scheme are: *i)* stock options must be available to all employees; *ii)* a minimum of twelve months must pass between the conclusion of a stock option contract until it is exercised; *iii)* the exercise price must not be lower than the average trading price for the last ten trading days before the option is exercised; *iv)* the employee must own the stock for no less than two years after purchase; and *v)* the annual stock options must not exceed ISK 600 000 at the exercise price.

In *Ireland*, the two concessionary schemes are the approved share option scheme and the approved savings related share options schemes. The first scheme must be open to all employees and full-time directors; options must be granted to and exercisable by all employees and directors on the same basis. Similar provisions apply to the approved savings-related share options schemes. The only difference is that the shares are acquired on the exercise of the option with money saved in a specific bank account. There is a maximum amount that can be saved: EUR 320 per month over a three or five year period.

In *Italy*, concessionary tax treatment is given to non-tradable stock options if the following main requirements are satisfied: *i)* the exercise price paid by the employee is not less than the market value of shares at grant date; and *ii)* the amount of shares assigned to the individual employee does not exceed more than 10% of the voting rights in the ordinary shareholders' meeting or more than 10% of the capital of the offering company.

In *Korea*, the main requirements for concessionary schemes are: *i)* stock options must be granted by certain firms (venture firms authorized by a relevant authority and listed firms in public open stock market); *ii)* stock options are granted by agreements with employees after a general assembly of stock holders of the firm; *iii)* the exercise price should be over values set by law; *iv)* options are not transferable to other persons; and *v)* the employee must exercise the options after 3 years from the time of grant.

In *France*, there are three kinds of concessionary schemes. In the first and second schemes, the tax treatment is preferential if certain conditions are satisfied: *i)* there should not be any excess discount (*i.e.* more than 5% of the fair market value); *ii)* a minimum holding period requirement and filing requirement (4 years) must be satisfied. For the second concessionary scheme, an additional condition must be met: *iii)* the shares should be kept at least two years between exercise and cash. In the third concessionary scheme, the tax treatment is preferential if some specific conditions about the company and its shareholders are met (mostly small unlisted and young companies).

In the *UK*, in addition to the standard scheme ("unapproved option plans"), three different concessionary schemes are present (the first two are also known as "approved option plans"): "Company Share Option Plans" (CSOPs), "Save As You Earn share option plans" (SAYE plans) and "Enterprise Management Incentive" options (EMI). CSOPs are discretionary option plans in that, with limited exceptions, tax law permits the company to have discretion over which employees are granted stock options. Also, with CSOPs the total value of shares an employee has under option must not exceed GBP 30 000 (*i.e.* the market value of the underlying shares at option-grant); employees can exercise CSOP options at any time, but to qualify for tax and National Insurance Contributions (NICs) relief, they must exercise after three years and before ten years from grant. However, employees may exercise within three years and qualify for the tax and NICs relief if they are leaving that employment for reasons of injury, disability, redundancy or retirement. SAYE plans are "all-employee" plans linked to an Inland Revenue approved savings contract with an approved savings provider. Under SAYE, employees have monthly contributions to their SAYE contract deducted directly from their pay by their employer (of up to GBP 250 per month). Employees can choose to exercise their options (after 3, 5 or 7 years depending on the terms of their employer's scheme) or to simply take the cash. Differently from the "approved" schemes (where the legislation requires that the scheme is approved by the Inland Revenue), EMI options must be notified to the Revenue, but they do not require approval. The EMI options are targeted at employees of smaller (high risk) companies carrying on qualifying trades. To qualify for EMI, a company must be independent, engaged in trading activities, have only qualifying subsidiaries, have gross assets of less than GBP 30 million, and not have a substantial proportion of its trade in an excluded activity. To qualify for EMI, employees must be employed by the company or a qualifying subsidiary, have worked there for at least 25 hours per week or 75% of their working time, and have no material interest in the company. Companies can have up to GBP 3 million of shares under EMI option (market value at grant) and a single employee GBP 100 000 of options at any one time.

In the *US*, incentive stock options (ISOs) benefit from preferential tax treatment if the following main conditions are met: *i)* the options must be granted according to a written plan that is approved by the shareholders of the company within one year of the plan's adoption by the board of directors; *ii)* the plan must specify the aggregate number of shares that may be issued and indicate the employees, or class of employees, eligible to receive the options; *iii)* the exercise price must be at least equal to the fair market value of the underlying shares at the time of grant; *iv)* the options must be granted only to employees and must be exercised when employed or within three months of leaving employment of the granting corporation; *v)* the options cannot be exercisable more than 10 years after grant; *vi)* options granted to an employee that are first exercisable in any one year must be capped at USD 100 000 in underlying share value based on the value of the shares at the date of grant; *vii)* after exercising the option, the employee cannot sell the stock within two years from the date at which the option is granted or one year from the date at which the option is exercised, whichever is later. A second concessionary scheme (employee stock purchase plans – ESPP) gives employees the benefit of special tax treatment if the following main conditions are met: *i)* the options must be granted pursuant to a written plan approved by the shareholders; *ii)* the stock purchased under the option may not be sold within two years from the grant of the option and one year after the shares are transferred; *iii)* the employee must exercise the option when employed or within three moths of leaving the employment of the granting corporation; *iv)* most full time employees must be included in the plan; *v)* the option price must not be less than the lesser of 85 percent of the fair market value of the stock at the time the option is granted or 85 percent of the fair market value of the stock at the time the option is exercised; *vi)* the option must be exercised within either a 5 year period or a 27 month period from the date of grant, depending on the relationship of the option price to the stock price; *vii)* no employees can acquire the right to buy more than USD 25 000 of stock per year.

2.2. Other incentive pay schemes

Incentive pay schemes take different forms. For instance, in the *UK*, the Share Incentive Plan (SIP) is a tax-advantaged share award scheme. A company that sets up a SIP can offer one or a combination of up to four types of plan shares. These are: free shares, partnership shares, matching shares and dividend shares. Shares must be held in the plan trust for 5 years for the employee to benefit from the full tax benefits available. Free shares are shares simply awarded by the employer – up to GBP 3 000 per annum. Partnership shares are shares that employees can choose to buy out of their gross pay – up to the lower of GBP 1 500 per year or 10% of gross pay. The company can choose to match partnership shares with up to two matching shares per partnership share. Dividend shares allow employees participating in the plan to receive their dividends tax-free by reinvesting them in further plan shares – up to GBP 1 500 per annum.

In the *UK*, two further types of "unapproved" share related incentive pay scheme are provided for as of 1 September 2003. The Finance Act 2003 introduced the concepts of "Restricted" and "Convertible" share awards.

In the case of *restricted share awards*, employers grant shares to employees, but with restrictions attached to the employee's ownership rights over those shares that are lifted after a time. Restrictions may include, for example, requiring employees to forfeit the shares if they leaving the employment of that company within a certain specified period; not allowing the employee to receive dividends from those shares for a certain period of time; or not allowing the employee voting rights through those shares for a certain period of time. Income tax and Class a National Insurance are applied at the time the shares are acquired by the employee, BUT only on what is deemed to be the "restricted value" of those shares at that time (minus anything the employee has paid to acquire them) – this is a value that takes into account the restrictions applying. So, for instance, as employees risk losing those shares if they leave the company within three years, at acquisition they must pay income tax and NICs on only 60% of the full market value at that time. However, when that restriction is lifted (say the three year forfeiture limit expires and the employee gains full ownership rights over the shares), a further income tax and NIC liability will then be payable on 40% (the untaxed proportion at acquisition) of the then full market value. The incentive element will usually relate to restrictions lifting only if/ when the employee meets performance standards set by the employer. However, the tax legislation applying to this type of share award allows the employer and employee to jointly agree ("elect") to pay income tax and NICs (employee and employer) at the time the shares are awarded on the then full unrestricted market value. The benefit of this opportunity for employers and employees is that, in the expectation that the market value of the shares will increase between award and the time the restrictions are lifted, paying income tax and NICs on the full market value (ignoring the effect of restrictions) when the shares are awarded allows them to minimise their total income tax and NICs liabilities payable on the earnings from those awards. But in doing so, they accept the risk that the value of the shares may instead fall during that period.

In the case of *convertible share awards*, an employee receives shares along with a right to convert those shares to another class of shares (usually significantly more valuable) at some point in the future. On acquisition of the original shares, income tax and NICs will be due on the market value of those shares (minus anything the employee pays to acquire them); this is a value which ignores the associated right to convert those shares into other shares. The basic principle for applying tax and NICs to the right to convert is the same as that for an option to acquire shares. In other words, no income tax or NICs liability arises with respect to any value deriving from that right until the time that right is exercised, such that employees "convert" their original shares into more valuable shares. At that time, income tax and NICs are payable on the difference in value between the shares acquired and the shares given up (minus anything the employee pays to convert).

In *Italy*, the incentive pay scheme (known as "azioni offerte alla generalita" dei dipendenti') must satisfy the following main conditions: *i)* the value of the shares assigned to the employee must not exceed the annual amount of EUR 2 065; and *ii)* the shares have to be held by the employee for not less than three years from the date of grant.

2.3. Tax treatment of schemes

The main elements of the tax treatment of these schemes for personal income tax purposes are shown in Table 2.2. The main distinction is whether the benefits deriving from stock options plans and incentive pay schemes are considered as employment income or capital income (capital gains). In the first case the benefits are subject to the personal income tax and in principle to social security contributions, while in the second case generally they are taxed separately. Moreover, the applicable tax rates on employment income are higher than those levied on capital gains.

In most OECD countries, employee benefits from stock options (and from other incentive pay schemes) are treated as ordinary employment income; thus they are added to other employment income for tax purposes.[1]

The main exceptions are Poland and the Slovak Republic and, (only) for their concessionary schemes, Denmark, Iceland, Ireland and the US. In these cases, employee benefits are taxed outside personal income tax, as they are considered capital gains. In the UK, option gains at exercise from concessionary schemes are subject to relief from income tax and NICs, unlike standard (unapproved) schemes. The capital gains tax treatment of shares acquired by exercising share options is identical to shares bought on the open market on the same day, regardless of whether the scheme is concessionary or standard. Capital gains tax is charged on shares at disposal subject to the taxpayers' annual exempt amount. Shares acquired via employee share option schemes are treated as having been acquired at option exercise.

In Italy, employee benefits deriving from concessionary stock options schemes (that is the difference between the sale price of the shares and the strike price of the options) are taxed as capital gains, while the benefits deriving from the incentive pay scheme (that is, the difference between the value of the shares at the time of grant and the exercise price, if any) are exempt.

Some countries give tax relief in determining the taxable base. The relief can be granted in the form of a partial tax exemption. For instance, in Australia the first AUD 1 000 are exempt; in Germany the first EUR 154 per year are exempt and in Spain the first EUR 3 005 per year are exempt, while in Mexico an exemption is granted of up to 15 days of the minimum wage, in Ireland and the UK the annual exemption on capital gains applies. In Greece and Korea, there is no taxation at personal level for the concessionary scheme. However, in Korea, benefits of more than KRW 30 million from stock options in concessionary schemes are subjected to income taxation.

In other countries, relief is granted as a percentage of the employee benefit. For example, in Austria, a part of the gain (up to 50%) is exempt if certain conditions are met;[2] in Canada and in Spain the taxable base is respectively 50 per cent and 70 per cent of the employee benefit, provided certain conditions are met. Finally, in Luxembourg the employee benefit is reduced for tax purposes by 5 per cent each year (within the maximum limit of 20 per cent). In Denmark the (capital gains) tax rate ranges between 0% and 44.79% for each concessionary scheme depending on the holding period and the value of the stock options. Similarly, in France different tax rates are applied in concessionary schemes depending on the amount of the benefit and on whether the employee has been employed for more or less than three years. In the UK, capital gains from disposals of shares acquired through stock options exercise benefit from the annual exemption.

The tax base in Belgium is quite different from other countries: it depends on the value of the underlying shares, rather than on any measure of the benefit from the options. Employee benefits from stock options are added to other employment income for tax purposes, but the taxable advantage is valued at a flat rate (15 per cent of the value of the underlying shares at the time of grant). This percentage is increased by 1 percentage point for each year or part of a year exceeding five years.[3] These percentages are halved when the following conditions are jointly met: the exercise price is fixed at the time the right is granted; the option may neither be exercised before the end of the third nor after the end of the tenth calendar year following the year the right is granted; the option may not be the object of a transfer *inter vivos*; the shares may not be covered against the risk of depreciation; and the options must relate to shares either of the company on behalf of which the professional activity is performed or of a parent company thereof.

In the Netherlands, where taxation generally takes place at grant, the taxable amount for non-quoted options is valued by a formula that takes into account both an intrinsic value and an expectation value. The formula gives a percentage (P) that has to be multiplied by the fair market value of the underlying shares on the date of grant in order to determine the taxable value of the stock options. More specifically, $P = I + V$, where I is the Intrinsic Value and V is the Expectation Value.

$I = [(w - u)/w] * 100$ where w is the fair market value of one share at the taxable date and u is the exercise price per share.

$V = (4.5 - 0.1 * t) * t - (0.09 - 0.002 * t) * I * t$ where t is the length of the exercise period between the taxable date and the last date on which the option can be exercised, expressed in years or fractions of years.

P is never less than 4%, V cannot be negative (a negative result is taken as nil), I and V are rounded down to whole numbers and t is a maximum of 20 years.

Usually, employment income is taxed according to the cash principle that is when the employee receives or realises the income. In the case of stock options, three main different moments can be identified: grant, exercise and disposal of shares. The timing of taxation for personal income tax purposes differs among the responding countries. Taxation is at the time of grant in the Czech Republic, Belgium and Turkey. It is at the time of exercise in Austria, Finland, Germany, Greece, Hungary, Iceland, Japan,[4] Korea, New Zealand, Poland, Portugal and Sweden. It is at the time of disposal of shares in France and the Slovak Republic.

In many countries, the timing of taxation differs depending on the specific stock options scheme. For instance, in Australia, taxation is at grant for standard schemes and the second concessionary scheme, while it is at exercise for the first concessionary scheme; in Denmark, Ireland, Iceland and the UK, taxation is at the time of exercise for the standard scheme, while it is at the time of the disposal of shares for the concessionary schemes (and the incentive pay scheme). In Italy, taxation is at the time of grant for the standard scheme and at the time of disposal of shares for the concessionary scheme, while in the US it is at the time of exercise for standard schemes (non qualified stock options) and at the time of the disposal of shares for concessionary schemes (incentive stock options and employee stock purchase plans). In those countries where other incentive pay schemes exist, taxation can be at the time of cash payment (Canada and Mexico) or at the time of grant (Spain).

Table 2.3 presents the treatment of employee stock options compensation for social security contributions purposes. In most countries, the treatment of stock options is the same as that of ordinary salary income, with employee stock options benefits included with ordinary income in determining the base for employer and employee social security contributions. Furthermore, where social security contributions are deductible for personal and/or corporate tax purposes, they continue to be deductible where the contributions include amounts based on stock option benefits.

The main exceptions are Belgium, France, Greece and Iceland (only for concessionary scheme), Ireland, Japan, Poland, Portugal, Slovak Republic, Mexico and Spain (only for incentive pay schemes), Denmark, Korea, Italy and the UK (only for concessionary schemes). These countries do not apply (employer and employee) social security contributions on employee stock option benefits. In Finland, only employees' health insurance contributions are imposed on stock option benefits; in Hungary, only employer health contributions are applicable. In the US, for incentive stock options schemes and employee stock purchase plans, employee and employer social security contributions are not collected.

An important issue in the taxation of employee stock options is the treatment at the corporate level, that is whether the cost of stock options is deductible or not from the corporate income tax base. Table 2.4 shows the tax treatment of stock options at the corporate level. Only a few countries (Austria, Belgium, Hungary, Ireland, New Zealand, Poland and Slovak Republic) never allow a deduction for employee stock options compensation from the corporate income tax base. In contrast, Luxembourg, the Netherlands, Portugal,[5] Sweden, Switzerland and Turkey always allow the deduction; in Germany there is always a corporate deduction provided that the employee pays personal income tax on the benefit. Italy allows the deduction of stock options costs (as of salary) from the central corporate income tax base, and not from the regional income tax on productive activities (Irap). The UK provides a deduction for the cost of share schemes for accounting periods starting from 1 January 2003 onwards; prior to this, no automatic deduction was available. The deduction is available for the Share Incentive Plans (except for dividend shares).

In the other countries, corporate deduction for employee stock options compensation depends on specific conditions and/or in the circumstance that options are met with purchased shares. For instance, in the Czech Republic, stock options are not deductible if they are sold or granted to employees not as part of work-related remuneration. The deduction is not allowed when stock options are met with newly issued shares in Australia, Finland, France, Japan,[6] Korea, Norway, Poland and Spain. The deduction is allowed only for specific schemes in Canada (concessionary phantom schemes). In Greece, Iceland and the US, the deduction is allowed only for the standard scheme, not for the concessionary schemes; in Denmark, it is allowed for both the standard scheme and the second concessionary scheme. Finally, the deduction is always available for the three incentive pay schemes (Canada, Mexico and Spain).

Table 2.2. **The taxation of stock options for personal income tax purposes**

Scheme	Benefit as ordinary income	Basis of valuation	Timing of taxation	Notes
AUSTRALIA				
Standard	Yes	Market value	Grant	Medicare levy (0.015) not deductible.
Concessionary (1)	Yes	Net value	Exercise	Medicare levy (0.015) not deductible.
Concessionary (2)	Yes	Net value (first AUD 1 000 deducted)	Grant	Medicare levy (0.015) not deductible.
	Yes	Net value (exceeding AUD 1 000)	Grant	Medicare levy (0.015) not deductible.
AUSTRIA				
Standard	Yes	Net value (up to 50% tax exempt)	Exercise	
	Yes	Net value	Exercise	
BELGIUM				
Concessionary	Yes	15% of the value of the shares	Grant	
	Yes	7.5% of the value of the shares	Grant	
CANADA				
Concessionary (public company)				
	i) Yes	Net market value	Exercise	
	ii) Yes	50% of net market value	Disposal of shares (if certain conditions are met)	
Concessionary (private company)				
	i) Yes	Net market value	Disposal of shares	
	ii) Yes	50% of net market value	Disposal of shares	
Concessionary (phantom)				
	i) Yes	Market value of bonus paid	Year payment/bonus is received	
	ii) Yes	50% of market value of bonus paid	Disposal of shares	
Profit sharing plans				
	Yes	Value of contributions	Year they are made	
CZECH REPUBLIC				
Standard	Yes	Net market value	Grant	
DENMARK				
Standard	Yes	Market value	Exercise	
Concessionary (1)	No	Net market value	Disposal of shares	Benefit taxed as capital gains.
Concessionary (2)	No	Net market value	Disposal of shares	Benefit taxed as capital gains.
FINLAND				
Standard	Yes	Net fair market value	Exercise	
FRANCE				
Concessionary (1)-(2)-(3)	No	Net fair market value	Cash	
GERMANY				
Standard (i)	Yes	Net market value (annual allowance)	Exercise	
Standard (ii)	Yes	Net market value	Exercise	
GREECE				
Standard	Yes	Net fair market value	Exercise	
Concessionary	Yes	Net fair market value	Exercise	
HUNGARY				
Standard	Yes	Net market value	Exercise	
Incentive pay scheme	No	Net value	Cash	Benefit not treated as ordinary employment income.
ICELAND				
Standard	Yes	Net market value	Exercise	
Concessionary	No	Net value	Disposal of shares	Benefit taxed as capital gains.

Table 2.2. **The taxation of stock options for personal income tax purposes** *(cont.)*

Scheme	Benefit as ordinary income	Basis of valuation	Timing of taxation	Notes
IRELAND				
Standard	Yes	Net value	Exercise	
Concessionary (Approved share option schemes)	No	Net market value	Disposal of shares	Provided certain conditions are met benefits are taxed as capital gains. Exemption up to the annual limit applies.
Concessionary (Approved savings related share option schemes)	No	Net market value	Disposal of shares	Provided certain conditions are met benefit are taxed as capital gains. Exemption up to the annual limit applies.
ITALY				
Standard	Yes	Net value	Grant	
Concessionary	No	Difference between sale price of shares and strike price	Disposal of shares	Benefits are taxed as capital gains.
Incentive pay scheme	No	Difference between sale price and value of the shares at grant	Disposal of shares	Benefits are taxed as capital gains.
JAPAN				
Standard	Yes	Net market value	Exercise	However, provided certain conditions are met benefits are taxed as capital gains at the time of disposal of shares.
KOREA				
Standard	Yes	Net market value	Exercise	
Concessionary	Yes	Net market value	Exercise	
LUXEMBOURG				
Standard				
Options librement négociables	Yes	Net value	Grant	
Options individuelles (i)	Yes	Net value	Exercise	
Options individuelles (ii)	Yes	Net value reduced by 5% each year (until 20%)	Exercise	
MEXICO				
Standard	Yes	Net value	Exercise	
Profit sharing plans	Yes	Paid value (exemption up to 15 days of the minimum wage)	Cash	
NETHERLANDS				
Standard (1)	Yes	Economic value	Grant	
Standard (2)	Yes	Actual obtained profit	Exercise	
NEW ZEALAND				
Standard	Yes	Net market value	Exercise	
NORWAY				
Standard	Yes	Net value	Exercise	
POLAND				
Standard	No	Net market value	Exercise	
PORTUGAL				
Standard	Yes	Net market value	Exercise	
SLOVAK REPUBLIC				
Standard	No	Capital gain on shares	Disposal of shares	Benefit taxed as capital gains.
SPAIN				
Standard				
i)	Yes	70% of net value	Exercise	
ii)	Yes	100% of net value	Exercise	
Incentive pay scheme				
i)	Yes	Value (up to a maximum value of EUR 3 005 per year)	grant	
ii)	Yes	Value (exceeding EUR 3 005 per year)	grant	

Table 2.2. **The taxation of stock options for personal income tax purposes** *(cont.)*

Scheme	Benefit as ordinary income	Basis of valuation	Timing of taxation	Notes
SWEDEN				
Standard	Yes	Net market value	Exercise	
SWITZERLAND				
Standard	Yes	n.a.	Exercise or grant	
TURKEY				
Standard	Yes	Market value	Grant	
UK				
Standard (Unapproved schemes)	Yes	Net gain	Exercise	
Concessionary (CSOP, SAYE, EMI)	No	Net market value	Disposal of shares	Assuming scheme conditions are met, benefits are taxed as capital gains determined as the difference between share disposal proceeds and the actual price paid for the shares, plus the cost of the option (if any). Annual exemption applies.
Share Incentive Plan (SIP)	No	Net market value	Disposal of shares	Assuming scheme conditions are met, benefits are taxed as capital gains determined as the difference between share disposal proceeds and their value on the date they are withdrawn from the plan, plus costs of disposal. Annual exemption applies.
Restricted share awards	Yes	Net gain	Acquisition + lifting of each restriction or sale, whichever is earlier	Income Tax and Class 1 National Insurance Contributions liabilities at acquisition on proportion of value reflecting restrictions. Further liabilities when restrictions lifted on proportion of value released at that time. Employer and employee may "elect" to pay income tax and NICs on full market value at time of acquisition.
Convertible share awards	Yes	Net gain	Acquisition + conversion or sale, whichever is earlier	Income Tax and Class 1 National Insurance Contributions liabilities at acquisition on value of shares, but ignoring right to convert. Further IT & NIC liabilities when conversion takes place, on difference in value between new shares acquired and shares given up.
US				
Nonqualified stock options	Yes	Net fair market value	Exercise	
Incentive stock options	No	Net fair market value	Disposal of shares	Benefit taxed as capital gains.
Employee stock purchase plans	No	Net fair market value	Disposal of shares	Benefit taxed as capital gains.

Table 2.3. **Treatment of compensation for social security contributions purposes**

Scheme	Benefit as ordinary income	Employer SSC	Employer SSC deduction	Employee SSC	Employee SSC deduction
AUSTRALIA					
Standard	No	No SSC	n/a	No SSC	n.a.
Concessionary (1)-(2)	No	No SSC	n/a	No SSC	n.a.
AUSTRIA					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
BELGIUM					
Concessionary	No	No SSC	n/a	No SSC	n.a.
CANADA					
Concessionary (public company)	Yes	Ordinary SSC	Yes	Ordinary SSC	Tax credit
Concessionary (private company)	Yes	Ordinary SSC	Yes	Ordinary SSC	Tax credit
Concessionary (phantom)	Yes	Ordinary SSC	Yes	Ordinary SSC	Tax credit
Profit sharing plans	Yes	Ordinary SSC	Yes	Ordinary SSC	Tax credit
CZECH REPUBLIC					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
DENMARK					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
Concessionary (1)-(2)	No	No SSC	n/a	No SSC	n.a.
FINLAND					
Standard	Yes	Ordinary SSC	Yes	Not ordinary SSC	No
FRANCE					
Concessionary (1)-(2)-(3)	No	No SSC	n/a	No SSC	n.a.
GERMANY					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
GREECE					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
Concessionary	No	No SSC	n/a	No SSC	n.a.
HUNGARY					
Standard	Yes	Health contribution	Yes	No SSC	n.a.
Incentive pay scheme	No	Health contribution	Yes	No SSC	n.a.
ICELAND					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
Concessionary	No	No SSC	n/a	No SSC	n.a.
IRELAND					
Standard	Yes	No SSC	n/a	No SSC	n.a.
Concessionary	No	No SSC	n/a	No SSC	n.a.
ITALY					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
Concessionary and pay scheme	No	No SSC	n/a	No SSC	n.a.
JAPAN					
Standard	No	No SSC	n/a	No SSC	n.a.
KOREA					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
Concessionary	No	No SSC	n/a	No SSC	n.a.
LUXEMBOURG					
Options librement négociables	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
Options individuelles	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
MEXICO					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	No
Profit sharing plans	No	No SSC	No	No SSC	No
NETHERLANDS					
Standard (1)-(2)	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
NEW ZEALAND					
Standard	Yes	No SSC	n/a	Not SSC	n/a

Table 2.3. **Treatment of compensation for social security contributions purposes** *(cont.)*

Scheme	Benefit as ordinary income	Employer SSC	Employer SSC deduction	Employee SSC	Employee SSC deduction
NORWAY					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	No
POLAND					
Standard	No	No SSC	n/a	No SSC	n.a.
PORTUGAL					
Standard	No	No SSC	n/a	No SSC	n.a.
SLOVAK REPUBLIC					
Standard	No	No SSC	n/a	No SSC	n.a.
SPAIN					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
Incentive pay scheme (i)	Yes	No SSC	n/a	No SSC	n.a.
Incentive pay scheme (ii)	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
SWEDEN					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	75% tax credit and 25% deduction
SWITZERLAND					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
TURKEY					
Standard	Yes	Ordinary SSC	Yes	Ordinary SSC	Yes
UK					
Unapproved schemes	Yes	Ordinary SSC	Yes	Ordinary SSC	No
CSOP, SAYE, EMI, SIP	No	No SSC	n/a	No SSC	n.a.
Restricted share awards	Yes	Ordinary SSC	Yes	Ordinary SSC	No
Convertible share awards	Yes	Ordinary SSC	Yes	Ordinary SSC	No
US					
Nonqualified stock options	Yes	Ordinary SSC	Yes	Ordinary SSC	No
Incentive stock options	No	No SSC	n/a	No SSC	n.a.
Employee stock purchase plans	No	No SSC	n/a	No SSC	n.a.

Table 2.4. **Tax treatment of stock options at corporate level**

Scheme	Deduction for employee stock option compensation	Notes
AUSTRALIA		
Standard and concessionary	No	When stock options are met with newly issued shares the company is not entitled to the deduction. It would be entitled for purchased shares (but this scenario is unlikely).
AUSTRIA		
Standard	No	–
BELGIUM		
Concessionary	No	–
CANADA		
Concessionary (public company)	No	–
Concessionary (private company)	No	–
Concessionary (phantom)	Yes	–
Profit sharing plans	Yes	–
CZECH REPUBLIC		
Standard	Yes	If the stock options are sold or granted to employees not as part of work-related remuneration they are not deductible.
DENMARK		
Standard	Yes	–
Concessionary (1)	No	–
Concessionary (2)	Yes	–
FINLAND		
Standard	Yes	When stock options are met with purchased shares. When stock options are met with newly issued shares the company is not entitled to the deduction.
FRANCE		
Concessionary	Yes	When stock options are met with purchased shares. When stock options are met with newly issued shares the company is not entitled to the deduction.
GERMANY		
Standard	Yes	Provided that the employee pays personal income tax on the benefit.
GREECE		
Standard	Yes	–
Concessionary	No	–
HUNGARY		
Standard and incentive scheme	No	–
ICELAND		
Standard	Yes	However, there is no legislative provision as to the treatment of stock options in company accounts or in tax legislation as such.
Concessionary	No	–
IRELAND		
Standard	No	–
Concessionary (Approved share option schemes)	No	–
Concessionary (Approved savings related share option schemes)	No	–
ITALY		
Standard and concessionary	Yes	However, the deduction is not allowed from the regional corporate income tax (IRAP).
JAPAN		
Standard	Yes	When stock options are met with purchased shares. When stock options are met with newly issued shares, the company is not entitled to the deduction.
KOREA		
Standard and concessionary	Yes	When stock options are met with purchased shares. When stock options are met with newly issued shares, the company is not entitled to the deduction.

Table 2.4. **Tax treatment of stock options at corporate level** *(cont.)*

Scheme	Deduction for employee stock option compensation	Notes
LUXEMBOURG		
Standard	Yes	–
MEXICO		
Standard	Yes	The loss from the sale of stocks to the employee below market value, if it qualifies as a loss from a plain sale of stocks, is deductible for the corporation only against profits from other sales of stocks, with the possibility of carry forwards.
Profit sharing plans	No	–
NETHERLANDS		
Standard	Yes	The costs of the option at the moment of grant are deductible.
NEW ZEALAND		
Standard	No	–
NORWAY		
Standard	Yes	When stock options are met with purchased shares.
POLAND		
Standard	Yes	When stock options are met with purchased shares.
PORTUGAL		
Standard	Yes	The costs are deductible if accounted for as staff costs.
SLOVAK REPUBLIC		
Standard	No	
SPAIN		
Standard	Yes	Spanish companies can only obtain a corporate tax deduction provided the company incurred a real expense. Companies cannot deduct the opportunity cost associated with issuing new shares.
Incentive pay scheme	Yes	Spanish companies can only obtain a corporate tax deduction provided the company incurred a real expense. Companies cannot deduct the opportunity cost associated with issuing new shares.
SWEDEN		
Standard	Yes	–
SWITZERLAND		
Standard	Yes	–
TURKEY		
Standard	Yes	–
UK		
Standard and concessionary schemes	Yes	Automatic for accounting periods starting from 1 January 2003 or later. Only sometimes possible for earlier accounting periods using a case law deduction.
SIP	Yes	–
US		
Nonqualified stock options	Yes	–
Incentive stock options	No	–
Employee stock purchase plans	No	–

3. Tax wedges on stock options and incentive pay schemes: the calculation methodology and results

This section explains the methodology used to calculate effective tax rates on stock options. After reviewing other work on measuring taxation of employee stock options, it was decided that the best way to approach the question was to use the *Taxing Wages* framework. This framework offers the advantage of being widely accepted and understood.

However, the taxation of stock options raises two issues that are not currently included in the *Taxing Wages* framework: the time lag between employment and eventual payment, and the fact that the cost of stock options is not always allowed as a deduction against corporation tax. The present section outlines how the framework can be extended to take account of these issues. The analysis is based on the view that stock option plans that are met with newly issued shares represent an economic cost to the company, even if that cost is not allowed for the purposes of corporation tax. The analysis focuses on the marginal tax wedge, as the choice between stock options and ordinary salary is normally made "at the margin".

In order to introduce the extensions to the *Taxing Wages* framework in a gradual manner, this section is structured as follows. First, the issue of disallowing labour costs is introduced in a case where only the employer pays taxes and there is no time lag in payment. Next, taxation at the level of the employee is introduced. Finally, the time lag that is characteristic of employee stock options is introduced.

3.1. The issue of disallowing labour costs

If we focus on labour decisions taken by enterprises, under a usual set of simplifying assumptions, firms maximise the following function:

$$\text{Max}\Pi = F - wL - t_g(F - \alpha wL) = F(1 - t_g) - wL\,(1 - \alpha t_g)$$

where

Π = profits

F = value added

w = pre-tax wage (either cash or stock-options)

L = labour

t_g = corporate tax rate

and αmeasures the deductibility of labour costs from the corporate tax base, that is α = (total deductibility) or $\alpha = 0$ (no deductibility).

At the optimum, the firm hires labour until the net of tax value of the marginal unit is just equal to its net of tax cost. This implies that the marginal rate of return from an additional unit of labour (F_L) and hence the cost of labour at the optimum is:

$$F_L = w(1 - \alpha t_g)/(1 - t_g)$$

When labour costs are tax deductible ($\alpha = 1$), the tax system is neutral ($F_L = w$) and the total tax wedge ($T = F_L - w$) on labour is 0.

On the other hand, when salary is not tax deductible ($\alpha = 0$), the tax system is not neutral:

$$F_L = w/(1 - t_g)$$

$$T = wt_g/(1 - t_g)$$

The tax wedge as a percentage of F_L (T_w), that is $(F_L - w)/F_L$, is equal to the corporate tax rate:

$$T_w = t_g$$

If we also consider the social security contributions paid by the employers (SSCF), the general formula of the marginal cost of labour is:

$$F_L = w[(1 - \alpha t_g) + SSC_F(1 - \beta t_g)]/(1 - t_g)$$

where:

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β measures the deductibility of SSCF from the corporate tax base, that is $\beta = 1$ (total deductibility) or $\beta = 0$ (no deductibility).

Even in presence of salary deductibility ($\alpha = 1$) and SSCF deductibility ($\alpha = 1$), the tax system is no longer neutral:

$F_L = w(1 + SSC_F)$

$T_w = SSC_F/(1 + SSC_F)$

As far as the no-deductibility of wage is concerned, we consider two cases. First, we consider the case when both the salary and the SSC_F are not deductible from the corporate income tax base ($\alpha = \beta = 0$):

$F_L = w(1 + SSC_F)/(1 - t_g)$

$T_w = (SSC_F + t_g)/(1 + SSC_F)$

Second, we consider the case when the salary is not deductible ($\alpha = 0$) while SSC_F are deductible ($\beta = 1$):

$F_L = w[SSC_F + 1/(1 - t_g)]$

$T_w = [SSC_F\ (1 - t_g) + t_g]/[1 + SSC_F\ (1 - t_g)]$

This analysis has shown how disallowing labour costs increases the employer part of the tax wedge. It is now necessary to introduce the employee part of the tax wedge, followed by the time lag.

3.2. Introducing personal income tax and employee social security contributions

If we consider also the personal income tax and the employee social security contributions (SSC_w) on wage income, the net of tax salary becomes:

$w[1 - t_m - SSC_w(1 - \gamma t_m)]$

where:

t_m = marginal income tax rate

SSC_w = employee social security contributions

γ measures the deductibility of SSC_w from the personal tax base, that is $\gamma = 1$ (total deductibility) or $\gamma = 0$ (no deductibility).

The marginal tax wedge as a percentage of F_L (T_w), that is $\{F_L - w[1 - t_m - SSC_w(1 - \gamma t_m)]\}/F_L$, is:

$T_w = [t_g(1 - \alpha) + t_m(1 - t_g) + SSC_F(1 - \beta t_g + SSC_w(1 - \gamma t_m)(1 - t_g)]/[(1 - \alpha t_g) + SSC_F(1 - \beta t_g)]$

For some possible combinations of the three parameters (α, β, γ), it follows that:

$\alpha = \beta = \gamma = 1$ $\quad T_w = [t_m + SSC_F + SSC_w(1\text{-tm})]/(1 + SSC_F)$

$\alpha = \beta = \gamma = 0$ $\quad T_w = [t_g + t_m(1 - t_g) + SSC_F + SSC_w(1 - t_g)]/(1 + SSC_F)$

$\alpha = 0;\ \beta = \gamma = 1$ $\quad T_w = [t_g + t_m(1 - t_g + SSC_F(1 - t_g) + SSC_w(1 - t_m)(1 - t_g)]/[1 + SSC_F(1 - t_g)]$

3.3. Introducing the time lag for stock options

In order to simplify the comparison between ordinary wages and stock options, taking into account the possible different timing of taxation, we consider two periods. We assume that wages are paid in the first period, while stock options are granted in the first but exercised in the second period. Moreover, in order to concentrate on the taxation of labour income and not on capital income, we assume that in the same second period shares acquired through stock options' exercise are immediately sold.

If there were no uncertainty, the employee would be indifferent to either receiving a before-tax wage w in the first period or a deferred before-tax compensation $\underline{w}$ in the second period if:

$\underline{w} = w(1 + i)$ where i is the net-of-tax market rate of interest.

We first assume that personal taxation occurs when the compensation is actually received in cash, that is, in the second period. The tax base is the value of the deferred compensation (including the implicit interest). The same is assumed for the deduction of compensation for corporate income tax purposes.

The present value (first period) of the cost of labour FL in the case of stock options and the tax wedge are respectively:

$F_L = \underline{w}(1 + SSC_F)/(1 + i) = w(1 + SSC_F)$

$T_w = (t_m + SSC_w + SSC_F)/(1 + SSC_F)$

that is, (*ceteris paribus*) they are the same as in the case of ordinary wage income.

In the case of non-deductibility of stock options and SSC the cost of labour and the tax wedge are respectively:

$FL = w(1 + SSC_F)/(1 - t_g)$

$T_w = [t_g + t_m (1 - t_g) + SSC_F + SSC_w(1 - t_g)]/(1 + SSC_F)$

while if SSC_F are deductible:

$F_L = w[SSC_F + 1/(1 - t_g)]$

$T_w = [t_g + t_m (1 - tg) + SSC_w (1 - t_m)(1 - t_g) + SSC_F (1 - t_g)]/[1 + SSC_F (1 - t_g)]$

In this framework of no uncertainty, the timing of taxation (grant or exercise of the stock options) does not affect the cost of labour and the tax wedge. If stock options are taxed at grant and the tax base is represented by the present value of the deferred compensation, that is $\underline{w}/(1 + i) = w$, the tax wedge is again:

$T_w = (t_m + SSC_w + SSC_F)/(1 + SSC_F)$

Differences between effective tax wedges on ordinary wage income and on stock options could arise for instance if:

- personal income tax rates and social security contributions on ordinary wages and on stock options are ordinarily different;
- deductibility of stock options is not allowed.

If we introduce uncertainty, differences between effective tax wedges on ordinary wage income and on stock options could be present if we adopt a *backward-looking* approach. This is because the *ex post* returns on stock options could be different from the expected returns (which we have assumed to be equal to the market rate of interest). When stock options are taxed at exercise, the difference between expected and *ex post* returns does not affect the tax wedges which are the same as in the forward-looking approach. On the other hand, if stock options are taxed at grant on a base equal to the present value of the expected compensation, higher (lower) *ex post* returns than the expected ones mean lower (higher) tax wedges.

Summing up, while in the Chapter 1 the analysis addresses aspects like the presence of uncertainty, the possible additional productivity of the company and the possible risk aversion of the employee, here the main assumption of the absence of uncertainty is made (and thus the absence of possible additional productivity of the company and risk aversion of the employee). As a consequence, the different timing of taxation (grant or exercise of the stock options) does not affect the cost of stock options and the tax wedge.

3.4. The results of the calculations

Given the previous methodology and formulae, Table 2.5 shows the resulting marginal tax wedges for each country, based on data drawn from the questionnaires. When looking at the results some general remarks have to be kept in mind. First, data and results refer to the case of a single worker, earning 100% APW (in the next section the results concerning higher levels of income are reported). Secondly, in the framework used here the different timing of taxation (grant or exercise of the options or disposal of shares) does not affect the results, as we assume no uncertainty and disregard issues related to discounting cash payments. Finally, in order to concentrate on the taxation of labour income and not on capital income, we have assumed that shares acquired through stock options' exercise are immediately sold.[7] However, this assumption has been removed for two countries (France and the UK) in order to allow a comparison between the different existing stock options schemes in each country (more details are given below). Moreover, a different methodology to calculate the effective tax rates has been followed for Belgium and partly for the Netherlands in order to take their specific tax regimes into account. Thus, with reference to all these countries (Belgium, France, Netherlands and the UK), the comparison with the results concerning the remaining countries must be interpreted with caution.

4. Comparison between stock options and ordinary salary

Table 2.6 compares, for each country, the marginal tax wedges on stock options (and other incentive pay schemes) with those on ordinary salary (drawn from *Taxing Wages*, 2002). The last column of Table 2.6 gives specific explanations about the differences between the two sets of marginal tax wedges. Some general comments can be made from the comparison.

Same tax treatment of stock options and salary. In some countries (Germany, Luxembourg, Sweden, Switzerland and Turkey), tax wedges on stock options and salary are structurally the same, as the tax treatment at the corporate and personal levels of these two forms of compensation is the same. This is also the case for Canada with profit sharing plans, for the Netherlands with the second standard scheme (where the presumptive taxation of returns does not apply), for Denmark, Greece, Italy and the UK for standard schemes (only) and for the US for nonqualified stock options schemes (only). Thus in these countries and cases, the tax system is neutral as regards granting stock options or paying ordinary salary.

Same tax treatment under certain conditions. In some other countries (Czech Republic, Australia, Canada, Korea, Norway and Spain), tax wedges are the same only under certain conditions concerning the deductibility of employee benefits from the corporate income tax base. For instance, in Czech Republic tax wedges on stock options and salary are the same when stock options are granted to employees as part of work-related remuneration; in Australia and Norway, tax wedges are identical when stock options are met with purchased shares, while they are different when stock options are met with newly issued shares. This is also the case for Canada with concessionary (phantom) stock options schemes, for Korea with standard schemes and for Spain with standard schemes. In these countries, when deduction is not allowed, tax wedges on stock options are higher than on ordinary salary.

Preferential tax treatment of stock options at the personal level associated with deduction at the corporate level. Several countries grant preferential tax treatment to stock options at the personal level, allowing deductibility at the corporate level at the same time. In these countries, the tax system is not neutral with respect to the choice between salary and stock options, as stock options are tax favoured. This is the case for Australia with the (second) concessionary stock options scheme (purchased shares); for Canada with phantom schemes (when employee benefits are only partially taxed); for Denmark for the second concessionary scheme; for France for all concessionary schemes (when stock options are met with purchased shares); for Italy for both the concessionary scheme and the incentive pay scheme; for Portugal because of the non-application of social security contributions; for Poland, Japan and Korea (concessionary schemes) when stock options are met with purchased shares; for Luxembourg with the options *individuelles* (when the personal tax base is partially reduced), for Spain with standard schemes (when stock options are met with purchased shares and the personal tax base is reduced by 30%) or incentive pay schemes (when there is no taxation at personal level); and for the United Kingdom with concessionary schemes. In Finland, the preferential treatment of employees' social security contributions makes the tax wedge on stock options (when the deduction of costs is allowed) slightly lower than the tax wedge on salary.

No deduction at the corporate level offset by a preferential tax treatment of stock options at the personal level. Finally, some countries combine preferential tax treatment at the personal level with non-deductibility of employee benefit at the corporate level. In these countries, the tax system is not neutral in respect of the choice between salary and stock options. Depending on individual cases, tax wedges on stock options can be higher or lower than those on ordinary salary. For instance, tax wedges on stock options are higher than those on salary in Canada (for public company schemes, with partial taxation at personal level), in Finland, Japan and Korea (when stock options are met with newly issued shares), in Mexico (for standard schemes and profit sharing plans), in Spain (standard schemes, when stock options are met with newly issued shares and the personal tax base is reduced by 30%) and in the US (incentive stock options and employee stock purchase plans). Inversely, tax wedges are lower in Canada (private company schemes, with partial taxation at personal level), Belgium (in both the two possible concessionary cases), Greece (concessionary scheme), Hungary (standard stock options schemes and incentive pay schemes), Iceland (concessionary scheme), Ireland (both standard and concessionary schemes), Poland (newly issued shares) and the Slovak Republic. In Denmark, depending on the applicable tax rates (on capital gains), the tax wedge (for the first concessionary scheme) can be higher or lower than on salary. Finally, in Australia, the concessionary tax treatment at the personal level combined with non deduction at the corporate level makes the tax wedge on stock options almost equal to that on ordinary salary (second concessionary scheme, with no taxation at personal level). In France, when stock options are met with newly issued shares, the tax wedge can be higher or lower than on ordinary salary depending on the scheme.

5. Comparison between stock options and ordinary salary for higher levels of income

Following the same methodology, Table 2.7 reports the results (marginal tax wedges) concerning the case of a single worker, earning now 167% APW, while Table 2.8 shows the new comparison between stock options compensation and ordinary salary. Some general comments can be made from the comparison.

Same tax treatment of stock options and salary. As illustrated above, in some countries (Germany, Luxembourg, Sweden, Switzerland and Turkey), the tax treatment of stock options and ordinary salary is the same at both the corporate and personal levels. In many other countries the treatment is the same but only for certain schemes. For instance, the benefits deriving from standard stock options schemes are taxed like ordinary salary in Denmark, Greece, Italy, the UK and the US. In all these countries, due to the fact the tax treatment is the same, the tax wedges on stock options and salary are identical even for higher levels of income. The tax system is still neutral between these two kinds of employee compensation.

Same tax treatment under certain condition. In many countries (Australia, Canada, Czech Republic, Korea, Norway and Spain) tax wedges of stock options and salary are the same only under certain conditions (and for specific schemes), mainly concerning the deductibility of stock options costs from the corporate income tax base. In these countries, when deduction is allowed (and other conditions are met), the tax system is still neutral also for higher levels of income.

Preferential tax treatment of stock options at the personal level associated with deduction at the corporate level. In this case, countries grant preferential tax treatment to stock options at the personal level, allowing deductibility at the corporate level at the same time. In general, in these countries the tax system is not neutral as regards stock options or salary, as stock options are tax favoured. More importantly, in these countries the tax advantage of stock options over salary increases with income; that is, the difference between the tax wedges on stock options and on salary is generally larger for higher levels of income (167% APW) than for average levels (100% APW). For instance, in Australia (for the second concessionary scheme and when stock options are met with purchased shares), the difference is 30 percentage points for average incomes and 47 points for higher incomes. Similar results are reported for Denmark (second concessionary scheme), France (all concessionary schemes with stock options met with purchased shares), Italy (concessionary scheme and incentive pay scheme), Korea (concessionary scheme), Luxembourg (options *individuelles*), Poland and Spain (standard schemes and incentive pay schemes). However, an opposite result is found for some countries. For instance, in the UK the difference is greater for average incomes than for higher incomes.

No deduction at the corporate level offset by a preferential tax treatment of stock options at the personal level. When countries combine preferential tax treatment at the personal level with non-deductibility at the corporate level, depending on individual cases the tax wedge on stock options can be higher or lower than on ordinary salary. Compared with average incomes, higher levels of income frequently have a tax wedge on stock options that is lower than on salary. For instance, in Hungary, the difference between the tax wedge on incentive pay schemes and on ordinary salary increases from –0.038 (100% APW) to –0.114 (167% APW); in Korea, the tax wedge on stock options is higher than on salary for average levels of incomes, while it becomes almost equal for high levels of incomes. In Mexico, for higher levels of incomes the tax wedge for profit sharing plans becomes lower than that on salary.

Table 2.5. **Marginal tax wedges on stock options and other incentive pay schemes. Average incomes**

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
AUSTRALIA										
Standard										
Purchased shares	0.30	0.315	1	0	n.a.	0	n.a.	–	0.015	0.3150
New issued shares	0.30	0.315	0	0	n.a.	0	n.a.	–	0.015	0.5205
Concessionary (1)										
Purchased shares	0.30	0.315	1	0	n.a.	0	n.a.	–	0.015	0.3150
New issued shares	0.30	0.315	0	0	n.a.	0	n.a.	–	0.015	0.5205
Concessionary (2)									0.015	
Purchased shares (i)	0.30	0.015	1	0	n.a.	0	n.a.	–	0.015	0.0150
Purchased shares (ii)	0.30	0.315	1	0	n.a.	0	n.a.	–	0.015	0.3150
New issued shares (i)	0.30	0.015	0	0	n.a.	0	n.a.	–	0.015	0.3105
New issued shares (ii)	0.30	0.315	0	0	n.a.	0	n.a.	–	0.015	0.5205
AUSTRIA										
Standard										
i)	0.34	0.3303	0	0.288	1	0.172	1	–	–	0.6009
ii)	0.34	0.3303	0	0.288	1	0.172	1	–	–	0.6925
BELGIUM										
Concessionary										
i)	0.4017	0.467	0	0.0	n.a.	0.0	n.a.	–	–	0.5323
ii)	0.4017	0.467	0	0.0	n.a.	0.0	n.a.	–	–	0.4670
CANADA										
Concessionary (public company)										
i)	0.386	0.3124	0	0.078	1	0.069	0	n.a.	–	0.6375
ii)	0.386	0.3124	0	0.078	1	0.069	0	n.a.	–	0.5460
Concessionary (private company)										
i)	0.1912	0.3124	0	0.078	1	0.069	0	n.a.	–	0.5294
ii)	0.1912	0.3124	0	0.078	1	0.069	0	n.a.	–	0.4105
Concessionary (phantom)										
i)	0.386	0.3124	1	0.078	1	0.069	0	n.a.	–	0.4262
ii)	0.386	0.3124	1	0.078	1	0.069	0	n.a.	–	0.2813
Profit sharing plans	0.386	0.3124	1	0.078	1	0.069	0	n.a.	–	0.4262
CZECH REPUBLIC										
Standard										
i)	0.31	0.2	1	0.35	1	0.125	1	–	–	0.4815
ii)	0.31	0.2	0	0.35	1	0.125	1	–	–	0.6110
DENMARK										
Standard	0.30	0.4479	1	0	1	0.08	1	–	–	0.4921
Concessionary (1)										
i)	0.30	0	0	0	n.a.	0	n.a.	0	–	0.30
ii)	0.30	0	0	0	n.a.	0	n.a.	0.28	–	0.496
iii)	0.30	0	0	0	n.a.	0	n.a.	0.43	–	0.601
iii)	0.30	0	0	0	n.a.	0	n.a.	0.4479	–	0.6135
Concessionary (2)										
i)	0.30	0	1	0	n.a.	0	n.a.	0	–	0.00
ii)	0.30	0	1	0	n.a.	0	n.a.	0.28	–	0.28
iii)	0.30	0	1	0	n.a.	0	n.a.	0.43	–	0.43
iii)	0.30	0	1	0	n.a.	0	n.a.	0.4479	–	0.4479

Table 2.5. **Marginal tax wedges on stock options and other incentive pay schemes. Average incomes** *(cont.)*

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
FINLAND										
Standard										
i)	0.29	0.4143	1	0.25	1	0.015	0	–	–	0.5434
i)	0.29	0.4143	0	0.25	1	0.015	0	–	–	0.6559
FRANCE										
Concessionary (1)										
i) Purchased shares	0.3543	0	1	0	1	0	1	–	0.40	0.40
i) New issued shares	0.3543	0	0	0	1	0	1	–	0.40	0.6126
ii) Purchased shares	0.3543	0	1	0	1	0	1	–	0.50	0.50
ii) New issued share	0.3543	0	0	0	1	0	1	–	0.50	0.6772
Concessionary (2)										
i) Purchased shares	0.3543	0	1	0	1	0	1	–	0.26	0.26
i) New issued shares	0.3543	0	0	0	1	0	1	–	0.26	0.5222
ii) Purchased shares	0.3543	0	1	0	1	0	1	–	0.40	0.40
ii) New issued share	0.3543	0	0	0	1	0	1	–	0.40	0.6126
Concessionary (3)										
i) Purchased shares	0.3543	0	1	0	1	0	1	–	0.26	0.26
i) New issued shares	0.3543	0	0	0	1	0	1	–	0.26	0.5222
ii) Purchased shares	0.3543	0	1	0	1	0	1	–	0.40	0.40
ii) New issued share	0.3543	0	0	0	1	0	1	–	0.40	0.6126
GERMANY										
Standard										
i)	0.389	0	1	0	1	0	0	–	–	0.00
ii)	0.389	0.3657	1	0.2065	1	0.2065	0	–	–	0.6454
GREECE										
Standard	0.35	0.15	1	0.2796	1	0.159	1	–	–	0.4413
Concessionary	0.35	0.00	0	0.0	1	0.0	1	–	–	0.35
HUNGARY										
Standard	0.18	0.30	0	0.11	1	0.0	n.a.	–	–	0.4735
Incentive pay scheme	0.18	0.35	0	0.11	1	0	n.a.	–	–	0.5111
ICELAND										
Standard	0.18	0.3551	0	0.052	1	0.0	n.a.	–	–	0.4928
Concessionary	0.18	n.a.	0	0.052	1	0	n.a.	0.1	–	0.2922
IRELAND										
Standard	0.16	0.2	0	0	n.a.	0	n.a.	–	–	0.3280
Concessionary (approved share option schemes)										
i)	0.16	0	0	0	n.a.	0	n.a.	0	–	0.1600
ii)	0.16	0	0	0	n.a.	0	n.a.	0.2	–	0.3280
Concessionary (approved savings related share option schemes)										
i)	0.16	0	0	0	n.a.	0	n.a.	0	–	0.1600
ii)	0.16	0	0	0	n.a.	0	n.a.	0.2	–	0.3280
ITALY										
Standard	0.4025	0.329	1	0.3308	1	0.0919	1	–	–	0.5420
Concessionary	0.4025	0.00	1	0	n.a.	0	n.a.	0.125	–	0.1622
Incentive pay scheme	0.4025	0.00	1	0	n.a.	0	n.a.	0.00	–	0.0425

Table 2.5. **Marginal tax wedges on stock options and other incentive pay schemes. Average incomes** *(cont.)*

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
JAPAN										
Standard										
i)	0.4087	0.165	1	0.0	n.a.	0.0	n.a.	–	–	0.1650
ii)	0.4087	0.165	0	0.0	n.a.	0.0	n.a.	–	–	0.5063
KOREA										
Standard										
i)	0.297	0.0596	1	0.0859	1	0.067	1	–	–	0.1920
ii)	0.297	0.0596	0	0.0859	1	0.067	1	–	–	0.4183
Concessionary										
i)	0.297	0.0	1	0.0	n.a.	0.0	n.a.	–	–	0.00
ii)	0.297	0.0	0	0.0	n.a.	0.0	n.a.	–	–	0.2970
LUXEMBOURG										
Standard										
Options librement négociables	0.3038	0.2697	1	0.138	1	0.14	1	–	–	0.4481
Options individuelles (i)	0.3038	0.2697	1	0.138	1	0.14	1	–	–	0.4481
Options individuelles (ii)	0.3038	0.2697	1	0.138	1	0.14	1	–	–	0.4007
MEXICO										
Standard										
i)	0.35	0.13	1	0.117	1	0.026	0	–	–	0.2444
ii)	0.35	0.13	0	0.117	1	0.026	0	–	–	0.4902
Profit sharing plans										
i)	0.35	0	0	0	0	0	0	–	–	0.3500
ii)	0.35	0.13	0	0	0	0	0	–	–	0.4345
NETHERLANDS										
Quoted stock options										
Standard (1)	0.345	0.42	1	0.1234	1	0.0495	1	–	30% on 4% presumptive return	0.5336
Standard (2)	0.345	0.42	1	0.1234	1	0.0495	1	–	n.a.	0.5093
Non-quoted stock options										
Standard (1)	0.345	0.42	1	0.1234	1	0.0495	1	–	30% on 4% presumptive return	0.5440
Standard (2)	0.345	0.42	1	0.1234	1	0.0495	1	–	n.a.	0.5116
NEW ZEALAND										
Standard	0.33	0.33	0	0.0	n/a	0.0	n/a	–	–	0.5511
NORWAY										
Standard										
Purchased shares	0.28	0.28	1	0.128	1	0.078	0	–	–	0.4309
New issued shares	0.28	0.28	0	0.128	1	0.078	0	–	–	0.5768
POLAND										
Standard										
Purchased shares	0.28	0.0	1	0.0	n/a	0.0	n/a	0.19	–	0.19
New issued shares	0.28	0.0	0	0.0	n/a	0.0	n/a	0.19	–	0.4168

Table 2.5. **Marginal tax wedges on stock options and other incentive pay schemes. Average incomes** *(cont.)*

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
PORTUGAL										
Standard	0.33	0.14	1	0.0	0	0.00	0	–	–	0.1400
SLOVAK REPUBLIC										
Standard	0.25	0	0	0	n.a.	0	n.a.	0.15	–	0.3625
SPAIN										
Standard										
i) Purchased shares	0.35	0.24	1	0.306	1	0.0635	1	–	–	0.3426
i) New issued shares	0.35	0.24	0	0.306	1	0.0635	1	–	–	0.5446
ii) Purchased shares	0.35	0.24	1	0.306	1	0.0635	1	–	–	0.4550
ii) New issued shares	0.35	0.24	0	0.306	1	0.0635	1	–	–	0.6141
Incentive pay scheme										
i)	0.35	0	1	0	n.a.	0	n.a.	–	–	0.0000
ii)	0.35	0.24	1	0.306	1	0.0635	1			0.4550
SWEDEN										
Standard	0.28	0.2593	1	0.3282	1	0.07	0	–	–	0.4950
SWITZERLAND										
Standard	0.245	0.211	1	0.116	1	0.116	1	–		0.3750
TURKEY										
Standard	0.33	0.207	1	0.215	1	0.15	1	–	–	0.4452
UK										
Standard	0.30	0.22	1	0.118	1	0.10	0		–	0.3918
CSOP, SAYE, EMI, SIP	0.30	0	1	0	n.a.	0	n.a.	Annual exempt amount	–	0.0000
CSOP, SAYE, EMI, SIP	0.30	0	1	0	n.a.	0	n.a.	0.2	–	0.2000
CSOP, SAYE, SIP	0.30	0	1	0	n.a.	0	n.a.	0.2 and taper relief (50%)	–	0.1000
EMI	0.30	0	1	0	n.a.	0	n.a.	0.2 and taper relief (25%)	–	0.05
US										
Nonqualified stock options	0.395	0.2162	1	0.0765	1	0.0765	0			0.3430
Incentive stock options	0.395	0.0	0	0.0	n.a.	0.0	n.a.	0.159	–	0.4912
Employee stock purchase plans	0.395	0.0	0	0.0	n.a.	0.0	n.a.	0.159	–	0.4912

NOTES TO TABLE 2.5

Canada: The marginal PIT rate adjusted to reflect the SSC credit.

France: In order to take into account all the specific regimes, it has been assumed that for the second concessionary scheme (and only for this) the shares are held during the two years following the exercise year and that during this period their value does not change. This assumption is applied in all the calculations. For both the first and the second concessionary schemes, the lower rates (respectively 0.40 and 0.26 per cent) are applied on the part of the exercise benefit that does not exceed EUR 152 500 (the higher rates – 0.50 and 0.40 per cent – on the exceeding part). For the third concessionary scheme the lower rate (0.26 per cent) is applied if the employee has been employed at least 3 years by the company at cash time (the higher rate – 0.40 per cent – for less than 3 years).

Belgium: The tax base is evaluated at a flat rate (that is 15% of the value of the shares or 7.5% if certain conditions are met). In the calculation the tax base has been derived in the following way: the shares' value at the time of grant and the strike price are assumed equal to 100; the shares' value at the time of exercise (after 3 years of holding) is

Table 2.5. **Marginal tax wedges on stock options and other incentive pay schemes. Average incomes** *(cont.)*

$Vs = [100*(1 + g)^3]/(1 + i)^3$ where *g* is the market increase and *i* is the market interest rate (in the calculation *g* = 10.16% has been derived from the last 10 years index of the Belgium stock exchange and *i* is assumed equal to 0.4%. The real present benefit for the employee is equal to the difference between Vs and the strike price, which is 32.09 in the example. It means that when the tax base is 15% of the shares' value, only 46.74% of the benefit is taxed (only 23.37% when the tax base is 7.5% of the shares' value).

Italy: It should be noted that the tax wedge on salary (and on standard stock option schemes) does not take account of the non-deductibility of employee compensation costs. In the calculations, this non-deductibility is considered with regard to concessionary schemes. For the concessionary scheme (where the options must be granted at an exercise price not less than the value of the shares at the time of grant), the taxable benefit is determined as the difference between the sale price of the shares and the strike price paid for the exercise of the options. In contrast, in the incentive pay scheme the (exempt) benefit is determined as the difference between the value of the shares at the time of grant and the price paid by the employee (if any).

Netherlands: Two sets of calculations are reported: the first refers to the case of quoted stock options; the second to non-quoted stock options. In both cases, the 30% tax applied on a presumptive 4% return (concerning the first standard scheme) is considered. In this case, the employee has to pay annually a tax of 1.2% (= 0.30*0.04) of the value of the option; this increases the tax wedge compared to the tax wedge in the second scheme. In the calculation it has been assumed that the stock options' value increases linearly during a holding period of three years. The present value of the presumptive taxes has been calculated assuming an interest rate of 2%.

For non-quoted stock options the applicable formula has been used; the main assumptions are share price growth of 6% per annum and discount interest rate of 2%.

UK: For both the concessionary schemes (CSOP, SAYE and EMI) and the incentive pay scheme (SIP), the capital gains tax rate for a 100% APW worker is 20%; the annual exemption of capital gains is available. When the shares are held by the employees in their employer, capital gains benefit from business assets taper relief (this reduces the share of gain chargeable depending on the holding period of the assets). The taper relief runs from the time of the exercise (CSOP and SAYE) or from when the shares are taken out of the plan (SIP); in the case of the EMI schemes the taper runs from the time of grant. In order to reflect these different treatments, the calculations assume: 3 years between grant and exercise; 1 year between exercise and disposal of shares. The following cases have been considered for the concessionary schemes: 1) annual exemption; 2) standard tax rate of 20% without taper relief (all the concessionary schemes); 3) taper relief applicable for CSOP, SAYE and SIP (that is, a share of gain chargeable equal to 50%); 4) taper relief applicable for EMI schemes (chargeable gain equal to 25%).

Table 2.6. **Comparison between stock options and ordinary salary. Average incomes**

Stock options/incentive pay schemes		Tax Wedge on stock options/incentive pay schemes A	Tax Wedge on salary B	Difference A-B	Explaining the results
AUSTRALIA			0.3150		
Standard					For the standard scheme and the first concessionary scheme, tax wedge (on stock options and salary) is the same (purchased shares). It is higher when corporate deduction is not allowed (newly issued shares).
Purchased shares		0.3150		0.0000	
New issued shares		0.5205		0.2055	
Concessionary (1)					
Purchased shares		0.3150		0.0000	
New issued shares		0.5205		0.2055	
Concessionary (2)					
Purchased shares (i)		0.0150		–0.3000	For the second concessionary scheme, if corporate deduction is available, tax wedge is the same as on salary; it is lower (1.50%) on the first AUD 1 000 (exempt from PIT). In this case, tax wedge is equal to the non deductible Medicare levy.
Purchased shares (ii)		0.3150		0.0000	
New issued shares (i)		0.3105		–0.0045	Compared with the previous case, tax wedges are higher due to the non deductibility at corporate level. When no corporate deduction is offset by no personal taxation (case i), tax wedge is almost the same (31.05%) as on salary (31.5%).
New issued shares (ii)		0.5205		0.2055	
AUSTRIA			0.556		
Standard					
	i)	0.6009		0.0449	When the tax relief (up to 50% exempt) at personal level is available, the tax wedge is almost equal to that on salary.
	ii)	0.6925		0.1365	Otherwise, the tax wedge is higher due to corporate non deductibility.
BELGIUM			0.664		
Concessionary	***i)***	0.5323		–0.1317	The personal tax treatment is concessionary. The tax wedge is lower even if the corporate deduction is not allowed.
	ii)	0.4670		–0.197	In this case the tax treatment is more preferential. Thus the tax wedge is lower than in the previous case.
CANADA			0.426		
Concessionary (public company)					For public company stock options tax wedges are higher than on salary as corporate deduction is not allowed; tax wedge is higher even when employee benefit is only partially taxed at personal level (50%).
	i)	0.6375		0.2115	
	ii)	0.5460		0.1200	
CANADA					
Concessionary (private company)					
	i)	0.5294		0.1034	Compared with the previous case, tax wedges of private company stock options are lower because the corporate tax rate is lower and thus the effects of non deductibility are lower.
	ii)	0.4105		–0.0155	

Table 2.6. **Comparison between stock options and ordinary salary. Average incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/incentive pay schemes	Tax Wedge on salary	Difference	Explaining the results
		A	B	A-B	
Concessionary (phantom)					
	i)	0.4262		0.0002	For phantom stock options corporate deduction is allowed. Thus the tax wedge is the same as on salary. When employee benefits are taxed partially (50%), the tax wedge becomes lower (28.13%) than on salary.
	ii)	0.2813		–0.1447	
Profit sharing plans		0.4262		0.0002	For profit sharing plans the tax treatment is the same as for salary. Thus tax wedges are identical.
CZECH REPUBLIC			0.4815		
Standard					
	i)	0.4815		0.0000	The tax treatment is the same as for salary. Thus tax wedges are identical.
	ii)	0.611		0.1295	If the stock options costs are not allowed as a deduction, the tax wedge is higher.
DENMARK			0.4921		
Standard		0.4921		0.000	The tax treatment is the same as for salary. Thus tax wedges are identical.
Concessionary (1)					
	i)	0.30		–0.1921	The corporate deduction is not allowed. Depending on the applicable capital gains tax rate, the tax wedge can be higher or lower than the tax wedge on salary.
	ii)	0.496		0.0039	
	iii)	0.601		0.1089	
	iii)	0.6135		0.1214	
Concessionary (2)	*i)*	0.00		–0.4921	The tax wedge is always lower than on salary. The difference depends on the applicable capital gains tax rate.
	ii)	0.28		–0.2121	
	iii)	0.43		–0.0621	
	iii)	0.4479		–0.0442	
FINLAND			0.566		
Standard					
	i)	0.5434		–0.0226	The tax wedge is lower because of the lower employees' social security contributions.
	ii)	0.6559		0.0899	The tax wedge is higher because the deduction of cost is not allowed.
FRANCE			0.5249		
Concessionary 1					
	i) Purchased shares	0.40		–0.1249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	i) New issued shares	0.6126		0.0877	The tax wedge is higher because the deduction of cost is not allowed.
	ii) Purchased shares	0.50		–0.0249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	ii) New issued share	0.6772		0.1523	The tax wedge is higher because the deduction of cost is not allowed.
Concessionary 2					
	i) Purchased shares	0.26		–0.2649	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	i) New issued shares	0.5222		–0.0027	The tax wedge is slightly lower even if the deduction of cost is not allowed.

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Table 2.6. **Comparison between stock options and ordinary salary. Average incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/incentive pay schemes	Tax Wedge on salary	Difference	Explaining the results
		A	B	A-B	
	ii) Purchased shares	0.40		–0.1249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	ii) New issued share	0.6126		0.0877	The tax wedge is higher because the deduction of cost is not allowed.
Concessionary 3					
	i) Purchased shares	0.26		–0.2649	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	i) New issued shares	0.5222		–0.0027	The tax wedge is slightly lower even if the deduction of cost is not allowed.
	ii) Purchased shares	0.40		–0.1249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	ii) New issued share	0.6126		0.0877	The tax wedge is higher because the deduction of cost is not allowed.
GERMANY			0.6454		
Standard					
	i)	0.0000		–0.6454	Tax wedge is zero as there is no taxation at corporate level (deduction) and exemption on personal level (annual exemption).
	ii)	0.6454		0.0000	The tax treatment is the same as for salary. Thus tax wedges are identical.
GREECE			0.4413		
Standard		0.4413		0.00	The tax treatment is the same as for salary. Thus tax wedges are identical.
Concessionary		0.35		–0.0913	The tax treatment is concessionary. The tax wedge is lower even if the corporate deduction is not allowed.
HUNGARY			0.549		
Standard		0.4735		–0.0755	The tax wedge is lower due to the preferential treatment at personal level even if the corporate deduction is not allowed
Incentive pay scheme		0.5111		–0.0379	The tax wedge is lower due to the preferential treatment at personal level even if the corporate deduction is not allowed
ICELAND			0.387		
Standard		0.4928		0.1058	The tax treatment is the same as for salary at the personal level, but the deduction is not allowed. Thus tax wedge is higher.
Concessionary		0.2922		–0.0948	The tax wedge is lower due to the preferential treatment at personal level.
IRELAND			0.332		
Standard		0.3280		–0.0040	Tax wedge is slightly lower. No SSC are applied, but the deduction of the employee benefit at corporate level is not allowed.
Concessionary (Approved share option schemes)					
	i)	0.1600		–0.172	Tax wedge is lower because there is no taxation (capital gains) at personal level. Tax wedge is equal to the corporate income tax rate.
	ii)	0.3280		–0.0040	The same as for standard scheme.

Table 2.6. **Comparison between stock options and ordinary salary. Average incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/incentive pay schemes A	Tax Wedge on salary B	Difference A-B	Explaining the results
Concessionary (Approved savings related share option schemes)					
	i)	0.1600		–0.172	Tax wedge is lower because there is no taxation (capital gains) at personal level. Tax wedge is equal to the corporate income tax rate.
	ii)	0.3280		–0.0040	The same as for standard scheme.
ITALY			0.542		
Standard		0.542		0.00	The tax treatment is the same as for salary. Thus tax wedges are identical.
Concessionary		0.1622		–0.3798	The tax wedge is lower because benefits are taxed as capital gains.
Incentive pay scheme		0.0425		–0.4995	The tax wedge is lower because benefits are tax exempt (the positive tax wedge is due to the non deductibility of costs from IRAP).
JAPAN			0.29		
Standard					
	i)	0.1650		–0.125	The tax wedge is lower because social security contributions are not applied.
	ii)	0.5063		0.2163	The tax wedge is higher because the deduction of stock options costs is not allowed.
KOREA					
Standard			0.192		
	i)	0.1920		0.00	The tax treatment is the same as for salary. Thus tax wedges are identical.
	ii)	0.4183		0.2263	The tax wedge is higher due to the non deductibility of stock options costs.
Concessionary					
	i)	0.00		–0.192	The tax wedge is lower as there is no taxation at personal level and full deduction at corporate level.
	ii)	0.297		0.105	The tax wedge is higher due to the non deductibility of stock options costs, even if there is no taxation at personal level.
LUXEMBOURG			0.448		
Standard					
Options librement négociables		0.4481		0.0001	The tax treatment is the same as for salary. Thus tax wedges are identical.
Options individuelles (i)		0.4481		0.0001	
Options individuelles (ii)		0.4007		–0.0473	The tax wedge is lower because of the tax relief at personal level.
MEXICO			0.258		
Standard					Tax wedge of stock options is higher (49.02%) when the deduction at corporate level is not allowed. For the same reason tax wedges of profit sharing plans are higher, even when there is no taxation for PIT purposes (case i).
i)		0.2444		–0.0136	
ii)		0.4902		0.2322	

Table 2.6. **Comparison between stock options and ordinary salary. Average incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/incentive pay schemes A	Tax Wedge on salary B	Difference A-B	Explaining the results
Profit sharing plans					
i)		0.3500		0.0920	
ii)		0.4345		0.1765	
NETHERLANDS			0.5093		
Quoted stock options					
	Standard (1)	0.5336		0.0243	The tax wedge is higher due to the presumptive taxation of stock options.
	Standard (2)	0.5093		0.00	The tax treatment is the same. Thus tax wedges are identical.
Non-quoted stock options					
	Standard (1)	0.5440		0.0347	The tax wedge is higher due to the presumptive taxation of stock options and to the application of the formula.
	Standard (2)	0.5116		0.0023	The tax treatment is slightly higher because social security contributions are applied at grant using the formula.
NEW ZEALAND			0.33		
Standard		0.5511		0.2211	Tax wedge is higher because corporate deduction is not allowed.
NORWAY			0.431		
Standard					Tax wedges are the same when deduction at corporate level is allowed (purchased shares). In the other case, tax wedge becomes higher.
Purchased shares		0.4309		–0.0001	
New issued shares		0.5768		0.1458	
POLAND			0.453		
Standard					
Purchased shares		0.19		–0.263	The tax wedge is lower because of the preferential tax treatment at personal level.
New issued shares		0.4168		–0.0362	Even if corporate deduction is not allowed, the tax wedge is lower because the tax treatment at the personal level is preferential.
PORTUGAL			0.394		
Standard		0.1400		–0.254	Tax wedge is lower because social security contributions are not applied.
SLOVAK REPUBLIC			0.494		
Standard		0.3625		–0.1315	Tax wedge is lower because social security contributions are not applied and benefits are taxed as capital gains at a lower rate.
SPAIN			0.458		For stock options, tax wedge is the same as salary when corporate deduction is available (case ii, purchased shares). Tax wedge is lower when the taxable base for PIT purposes is lower (case i, purchased shares). In the other cases, tax wedge is higher as corporate deduction is not allowed.
Standard					
i) Purchased shares		0.3426		–0.1154	
i) New issued shares		0.5446		0.0866	
ii) Purchased shares		0.4550		–0.0030	

Table 2.6. **Comparison between stock options and ordinary salary. Average incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/incentive pay schemes A	Tax Wedge on salary B	Difference A-B	Explaining the results
ii) New issued shares		0.6141		0.1561	
					For incentive pay schemes, tax wedge is zero when there is no taxation at corporate (deduction) and personal level (case i). Tax wedge is the same as on salary when employee benefit is taxed at personal level (case ii).
Incentive pay scheme					
	i)	0.0000		–0.4580	
	ii)	0.4550		–0.0030	
SWEDEN					
					The tax treatment is the same. Thus tax wedges are identical.
Standard		0.4950	0.495	0.0000	
SWITZERLAND					
					The tax treatment is the same. Thus tax wedges are the same.
Standard		0.375	0.375	0.0000	
TURKEY					
					The tax treatment is the same. Thus tax wedges are identical.
Standard		0.4452	0.445	0.0002	
UK			0.3918		
Standard		0.3918		0.00	For standard stock options schemes, the tax treatment is the same; thus the tax wedges are identical.
CSOP, SAYE, EMI, SIP		0.00		–0.3918	For concessionary schemes, tax wedge is zero when the annual exemption is available.
CSOP, SAYE, EMI, SIP		0.20		–0.1918	When employee benefits are taxed at personal level (because exceeding the annual exempt amount), tax wedge is equal to the capital gains tax rate.
CSOP, SAYE, SIP		0.10		–0.2918	The taper relief (50%) reduces the tax wedge.
EMI		0.05		–0.3418	For EMI schemes, the taper relief reduces the tax wedge even more.
US			0.343		
Nonqualified stock options		0.343		0.000	The tax treatment is the same. Thus tax wedges are identical.
Incentive stock options		0.4912		0.1482	The tax wedge is higher because of the non deductibility of costs, even if at personal level the treatment is preferential.
Employee stock purchase plans		0.4912		0.1482	

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Table 2.7. **Marginal tax wedges on stock options and other incentive pay schemes. Higher incomes**

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
AUSTRALIA										
Standard										
Purchased shares	0.30	0.485	1	0	n.a.	0	n.a.	–	0.015	0.485
New issued shares	0.30	0.485	0	0	n.a.	0	n.a.	–	0.015	0.6395
Concessionary (1)										
Purchased shares	0.30	0.485	1	0	n.a.	0	n.a.	–	0.015	0.485
New issued shares	0.30	0.485	0	0	n.a.	0	n.a.	–	0.015	0.6395
Concessionary (2)									0.015	
Purchased shares (i)	0.30	0.015	1	0	n.a.	0	n.a.	–	0.015	0.0150
Purchased shares (ii)	0.30	0.485	1	0	n.a.	0	n.a.	–	0.015	0.485
New issued shares (i)	0.30	0.015	0	0	n.a.	0	n.a.	–	0.015	0.3105
New issued shares (ii)	0.30	0.485	0	0	n.a.	0	n.a.	–	0.015	0.6395
AUSTRIA										
Standard										
i)	0.34	0.4292	0	0.288	1	0.172	1	–	–	0.6189
ii)	0.34	0.4292	0	0.288	1	0.172	1	–	–	0.7379
BELGIUM										
Concessionary										
i)	0.4017	0.54	0	0.0	n.a.	0.0	n.a.	–	–	0.5527
ii)	0.4017	0.54	0	0.0	n.a.	0.0	n.a.	–	–	0.4772
CANADA										
Concessionary (public company)										
i)	0.386	0.3887	0	0.0	1	0.0	0	n.a.	–	0.6247
ii)	0.386	0.3887	0	0.0	1	0.0	0	n.a.	–	0.5053
Concessionary (private company)										
i)	0.1912	0.3887	0	0.0	1	0.0	0	n.a.	–	0.5056
ii)	0.1912	0.3887	0	0.0	1	0.0	0	n.a.	–	0.3484
Concessionary (phantom)										
i)	0.386	0.3887	1	0.0	1	0.0	0	n.a.	–	0.3887
ii)	0.386	0.3887	1	0.0	1	0.0	0	n.a.	–	0.1944
Profit sharing plans	0.386	0.3887	1	0.0	1	0.0	0	n.a.	–	0.3887
CZECH REPUBLIC										
Standard										
i)	0.31	0.25	1	0.35	1	0.125	1	–	–	0.5139
ii)	0.31	0.25	0	0.35	1	0.125	1	–	–	0.6353
DENMARK										
Standard	0.30	0.5496	1	0	1	0.08	1	–	–	0.5856
Concessionary (1)										
i)	0.30	0	0	0	n.a.	0	n.a.	0	–	0.30
ii)	0.30	0	0	0	n.a.	0	n.a.	0.28	–	0.496
iii)	0.30	0	0	0	n.a.	0	n.a.	0.43	–	0.601
iii)	0.30	0	0	0	n.a.	0	n.a.	0.4479	–	0.6135
Concessionary (2)										
i)	0.30	0	1	0	n.a.	0	n.a.	0	–	0.00
ii)	0.30	0	1	0	n.a.	0	n.a.	0.28	–	0.28
iii)	0.30	0	1	0	n.a.	0	n.a.	0.43	–	0.43
iii)	0.30	0	1	0	n.a.	0	n.a.	0.4479	–	0.4479

Table 2.7. **Marginal tax wedges on stock options and other incentive pay schemes. Higher incomes** *(cont.)*

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
FINLAND										
Standard										
i)	0.29	0.474	1	0.25	1	0.015	0	–	–	0.5912
i)	0.29	0.474	0	0.25	1	0.015	0	–	–	0.6919
FRANCE										
Concessionary (1)										
i) Purchased shares	0.3543	0	1	0	1	0	1	–	0.40	0.40
i) New issued shares	0.3543	0	0	0	1	0	1	–	0.40	0.6126
ii) Purchased shares	0.3543	0	1	0	1	0	1	–	0.50	0.50
ii) New issued share	0.3543	0	0	0	1	0	1	–	0.50	0.6772
Concessionary (2)										
i) Purchased shares	0.3543	0	1	0	1	0	1	–	0.26	0.26
i) New issued shares	0.3543	0	0	0	1	0	1	–	0.26	0.5222
ii) Purchased shares	0.3543	0	1	0	1	0	1	–	0.40	0.40
ii) New issued share	0.3543	0	0	0	1	0	1	–	0.40	0.6126
Concessionary (3)										
i) Purchased shares	0.3543	0	1	0	1	0	1	–	0.26	0.26
i) New issued shares	0.3543	0	0	0	1	0	1	–	0.26	0.5222
ii) Purchased shares	0.3543	0	1	0	1	0	1	–	0.40	0.40
ii) New issued share	0.3543	0	0	0	1	0	1	–	0.40	0.6126
GERMANY										
Standard										
i)	0.389	0	1	0	1	0	0	–	–	0.00
ii)	0.389	0.496	1	0.00	1	0.00	0	–	–	0.496
GREECE										
Standard	0.35	0.30	1	0.28	1	0.159	1	–	–	0.5401
Concessionary	0.35	0.00	0	0.0	1	0.0	1	–	–	0.35
HUNGARY										
Standard	0.18	0.40	0	0.11	1	0.0	n.a.	–	–	0.5487
Incentive pay scheme	0.18	0.35	0	0.11	1	0	n.a.	–	–	0.5111
ICELAND										
Standard	0.18	0.355	0	0.052	1	0.00	n.a.	–	–	0.4927
Concessionary	0.18	n.a.	n.a.	0.052	1	n.a.	n.a.	0.1	–	0.2922
IRELAND										
Standard	0.16	0.42	0	0	n.a.	0	n.a.	–	–	0.5128
Concessionary (approved share option schemes)										
i)	0.16	0	0	0	n.a.	0	n.a.	0	–	0.1600
ii)	0.16	0	0	0	n.a.	0	n.a.	0.2	–	0.3280
Concessionary (approved savings related share option schemes)										
i)	0.16	0	0	0	n.a.	0	n.a.	0	–	0.1600
ii)	0.16	0	0	0	n.a.	0	n.a.	0.2	–	0.3280
ITALY										
Standard	0.4025	0.399	1	0.3308	1	0.0919	1	–	–	0.5899
Concessionary	0.4025	0.00	1	0	n.a.	0	n.a.	0.125	–	0.1622
Incentive pay scheme	0.4025	0.00	1	0	n.a.	0	n.a.	0.00	–	0.0425
JAPAN										
Standard										
i)	0.4087	0.26	1	0.0	n.a.	0.0	n.a.	–	–	0.26
ii)	0.4087	0.26	0	0.0	n.a.	0.0	n.a.	–	–	0.5624

Table 2.7. **Marginal tax wedges on stock options and other incentive pay schemes. Higher incomes** *(cont.)*

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
KOREA										
Standard										
i)	0.297	0.1818	1	0.0859	1	0.067	1	–	–	0.297
ii)	0.297	0.1818	0	0.0859	1	0.067	1	–	–	0.4939
Concessionary										
i)	0.297	0.0	1	0.0	n.a.	0.0	n.a.	–	–	0.00
ii)	0.297	0.0	0	0.0	n.a.	0.0	n.a.	–	–	0.2970
LUXEMBOURG										
Standard										
Options librement négociables	0.3038	0.3731	1	0.1381	1	0.1395	1	–	–	0.5260
Options individuelles (i)	0.3038	0.3731	1	0.1381	1	0.1395	1	–	–	0.5260
Options individuelles (ii)	0.3038	0.3731	1	0.1381	1	0.1395	1	–	–	0.4604
MEXICO										
Standard										
i)	0.35	0.2466	1	0.1174	1	0.0261	0	–	–	0.3491
ii)	0.35	0.2466	0	0.1174	1	0.0261	0	–	–	0.5607
Profit sharing plans										
i)	0.35	0	0	0	0	0	0	–	–	0.3500
ii)	0.35	0.2466	0	0	0	0	0	–	–	0.5103
NETHERLANDS										
Quoted stock options										
Standard (1)	0.345	0.52	1	0.00	n.a.	0.000	n.a.	–	30% on 4% presumed return	0.5443
Standard (2)	0.345	0.52	1	0.00	n.a.	0.000	n.a.	–	n.a.	0.52
Non-quoted stock options										
Standard (1)	0.345	0.52	1	0.00	n.a.	0.000	n.a.	–	30% on 4% presumed return	0.5596
Standard (2)	0.345	0.52	1	0.00	n.a.	0.000	n.a.	–	n.a.	0.52
NEW ZEALAND										
Standard	0.33	0.39	0	0.0	n.a.	0.00	n.a.	–	–	0.5913
NORWAY										
Standard										
Purchased shares	0.28	0.415	1	0.128	1	0.078	0	–	–	0.5505
New issued shares	0.28	0.415	0	0.128	1	0.078	0	–	–	0.6658
POLAND										
Standard										
Purchased shares	0.28	0.0	1	0.0	n.a.	0.0	n.a.	0.19	–	0.19
New issued shares	0.28	0.0	0	0.0	n.a.	0.0	n.a.	0.19	–	0.4168
PORTUGAL										
Standard	0.33	0.24	1	0.0	0	0.00	0	–	–	0.2400
SLOVAK REPUBLIC										
Standard	0.25	0	0	0	n.a.	0	n.a.	0,15	–	0.3625
SPAIN										
Standard										
i) Purchased shares	0.35	0.283	1	0.31	1	0.06	1	–	–	0.3658
i) New issued shares	0.35	0.283	0	0.31	1	0.06	1	–	–	0.5604
ii) Purchased shares	0.35	0.283	1	0.31	1	0.06	1	–	–	0.4855
ii) New issued shares	0.35	0.283	0	0.31	1	0.06	1	–	–	0.6354

Table 2.7. **Marginal tax wedges on stock options and other incentive pay schemes. Higher incomes** *(cont.)*

Stock options/incentive pay schemes	Corporate income tax rate t_g	PIT marginal tax rate t_m	SO benefit deduction α	Employer SSC SSC_F	Employer SSC deduction β	Employee SSC SSC_W	Employee SSC deduction γ	Capital gains tax	Other taxes	Tax wedge
Incentive pay scheme										
i)	0.35	0	1	0	n.a.	0	n.a.	–	–	0.0000
ii)	0.35	0.283	1	0.31	1	0.06	1			0.4855
SWEDEN										
Standard	0.28	0.5052	1	0.3282	1	0.0	0	–	–	0.6275
SWITZERLAND										
Standard	0.245	0.3014	1	0.1105	1	0.0605	1	–	–	0.409
TURKEY										
Standard	0.33	0.256	1	0.215	1	0.15	1	–	–	0.4795
UK										
Standard	0.30	0.22	1	0.118	1	0.0	0	–	–	0.3023
CSOP, SAYE, EMI, SIP	0.30	0	1	0	n.a.	0	n.a.	Annual exempt amount	–	0.00
CSOP, SAYE, EMI, SIP	0.30	0	1	0	n.a.	0	n.a.	0.2	–	0.20
CSOP, SAYE, SIP	0.30	0	1	0	n.a.	0	n.a.	0.2 and taper relief (50%)	–	0.10
EMI	0.30	0	1	0	n.a.	0	n.a.	0.2 and taper relief (25%)	–	0.05
US										
Nonqualified stock options	0.395	0.3362	1	0.0765	1	0.0765	0			0.4544
Incentive stock options	0.395	0.0	0	0.0	n.a.	0.0	n.a.	0.253	–	0.5481
Employee stock purchase plans	0.395	0.0	0	0.0	n.a.	0.0	n.a.	0.253	–	0.5481

Notes: see Table 2.5.

Table 2.8. **Comparison between stock options and ordinary salary. Higher incomes**

Stock options/incentive pay schemes		Tax Wedge on stock options/ incentive pay schemes A	Tax Wedge on salary B	Difference A-B	Explaining the results
AUSTRALIA					
			0.485		
Standard					For the standard scheme and the first concessionary scheme, tax wedge (of stock options and salary) is the same (purchased shares). It is higher when corporate deduction is not allowed (newly issued shares).
	Purchased shares	0.485		0.00	
	New issued shares	0.6395		0.1545	
Concessionary (1)					
	Purchased shares	0.485		0.00	
	New issued shares	0.6395		0.2055	
Concessionary (2)					
Purchased shares (i)		0.015		–0.47	For the second concessionary scheme, if corporate deduction is available, tax wedge is the same as on salary; it is lower (1.50%) on the first AUD 1 000 (exempt from PIT). In this case tax, wedge is equal to the non deductible Medicare levy.
Purchased shares (ii)		0.485		0.00	
New issued shares (i)		0.3105		–0.1745	Compared with the previous case, tax wedges are higher due to the non deductibility at corporate level. When no corporate deduction is offset by no personal taxation (case i), tax wedge is almost the same (31.05%) as on salary (31.5%).
New issued shares (ii)		0.6395		0.1545	
AUSTRIA			0.611		
Standard					
	i)	0.6189		0.0079	When the tax relief (up to 50% exempt) at personal level is available, the tax wedge is almost equal to that on salary.
	ii)	0.7379		0.1269	Otherwise, the tax wedge is higher due to corporate non deductibility.
BELGIUM			0.701		
Concessionary					
	i)	0.5527		–0.1483	The personal tax treatment is concessionary. The tax wedge is lower even if corporate deduction is not allowed.
	ii)	0.4772		–0.2238	In this case the tax treatment is more preferential. Thus the tax wedge is lower than in the previous case.
CANADA					
			0.3887		
Concessionary (public company)					For public company stock options, tax wedges are higher than on salary as corporate deduction is not allowed; tax wedge is higher even when employee benefit is taxed only partially at personal level (50%).
	i)	0.6247		0.236	
	ii)	0.5053		0.1166	
Concessionary (private company)					
	i)	0.5056		0.1069	Compared with the previous case, tax wedges of private company stock options are lower because the corporate tax rate is lower and thus the effects of non deductibility are lower.
	ii)	0.3484		–0.0403	
Concessionary (phantom)					
	i)	0.3887		0.00	For phantom stock options, corporate deduction is allowed. Thus the tax wedge is the same as on salary. When employee benefits are taxed partially (50%), the tax wedge becomes lower (28.13%) than on salary.
	ii)	0.1944		–0.1944	
Profit sharing plans		0.3887		0.00	For profit sharing plans, the tax treatment is the same as for salary. Thus tax wedges are identical.

Table 2.8. **Comparison between stock options and ordinary salary. Higher incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/ incentive pay schemes	Tax Wedge on salary	Difference	Explaining the results
		A	B	A-B	
CZECH REPUBLIC			0.5139		
Standard					
	i)	0.5139		0.0000	The tax treatment is the same as for salary. Thus tax wedges are identical.
	ii)	0.6353		0.1214	If the stock options costs are not allowed as a deduction, the tax wedge is higher.
DENMARK			0.5856		
Standard		0.5856		0.000	The tax treatment is the same as for salary. Thus tax wedges are identical.
Concessionary (1)					
	i)	0.30		–0.2856	Corporate deduction is not allowed. Depending on the applicable capital gains tax rate, the tax wedge can be higher or lower than the tax wedge on salary.
	ii)	0.496		–0.0896	
	iii)	0.601		0.0154	
	iii)	0.6135		0.0279	
Concessionary (2)					
	i)	0.00		–0.5856	The tax wedge is always lower that on salary. The difference depends on the applicable capital gains tax rate.
	ii)	0.28		–0.3056	
	iii)	0.43		–0.1556	
	iii)	0.4479		–0.1377	
FINLAND			0.611		
Standard					
	i)	0.5912		–0.0198	The tax wedge is lower because of the lower employees' social security contributions.
	ii)	0.6919		0.0809	The tax wedge is higher because the deduction of cost is not allowed.
FRANCE			0.5396		
Concessionary 1					
	i) Purchased shares	0.40		–0.1249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	i) New issued shares	0.6126		0.0877	The tax wedge is higher because the deduction of cost is not allowed.
	ii) Purchased shares	0.50		–0.0249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	ii) New issued share	0.6772		0.1523	The tax wedge is higher because the deduction of cost is not allowed.
Concessionary 2					
	i) Purchased shares	0.26		–0.2649	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	i) New issued shares	0.5222		–0.0027	The tax wedge is lightly lower even if the deduction of cost is not allowed.
	ii) Purchased shares	0.40		–0.1249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	ii) New issued share	0.6126		0.0877	The tax wedge is higher because the deduction of cost is not allowed.
Concessionary 3					
	i) Purchased shares	0.26		–0.2649	The tax treatment at personal level is preferential. Thus the tax wedge is lower.
	i) New issued shares	0.5222		–0.0027	The tax wedge is lightly lower even if the deduction of cost is not allowed.
	ii) Purchased shares	0.40		–0.1249	The tax treatment at personal level is preferential. Thus the tax wedge is lower.

Table 2.8. **Comparison between stock options and ordinary salary. Higher incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/ incentive pay schemes A	Tax Wedge on salary B	Difference A-B	Explaining the results
	ii) New issued share	0.6126		0.0877	The tax wedge is higher because the deduction of cost is not allowed.
GERMANY			0.496		
Standard					
	i)	0.0000		–0.496	Tax wedge is zero as there is no taxation at corporate level (deduction) and exemption on personal level (annual exemption).
	ii)	0.496		0.0000	The tax treatment is the same as for salary. Thus tax wedges are identical.
GREECE			0.5401		
Standard		0.5401		0.00	The tax treatment is the same as for salary. Thus tax wedges are identical.
Concessionary		0.35		–0.1901	The tax treatment is concessionary. The tax wedge is lower even if corporate deduction is not allowed.
HUNGARY			0.625		
Standard		0.5487		–0.0763	The tax wedge is lower due to the preferential treatment at personal level even if corporate deduction is not allowed.
Incentive pay scheme		0.5111		–0.1139	The tax wedge is lower due to the preferential treatment at personal level even if corporate deduction is not allowed.
ICELAND			0.387		
Standard		0.4927		0.1057	The tax treatment is the same as for salary at the personal level, but the deduction is not allowed. Thus tax wedge is higher.
Concessionary		0.2922		–0.0948	The tax wedge is lower due to the preferential treatment at personal level.
IRELAND					
			0.50		
Standard		0.5128		0.0128	Tax wedge is slightly higher. No SSC are applied, but the deduction of the employee benefit at corporate level is not allowed.
Concessionary (Approved share option schemes)					
	i)	0.1600		–0.34	Tax wedge is lower because there is no taxation (capital gains) at personal level. Tax wedge is equal to the corporate income tax rate.
	ii)	0.3280		–0.1720	Tax wedge is lower because benefits are taxed at the 20% flat rate.
Concessionary (Approved savings related share option schemes)					
	i)	0.1600		–0.34	Tax wedge is lower because there is no taxation (capital gains) at personal level. Tax wedge is equal to the corporate income tax rate.
	ii)	0.3280		–0.1720	Tax wedge is lower because benefits are taxed at the 20% flat rate.
ITALY			0.5899		
Standard		0.5899		0.00	The tax treatment is the same as for salary. Thus tax wedges are identical.
Concessionary		0.1622		–0.4277	The tax wedge is lower because benefits are taxed as capital gains.
Incentive pay scheme		0.0425		–0.5474	The tax wedge is lower because benefits are tax exempt (the positive tax wedge is due to the non deductibility of costs from IRAP).

Table 2.8. **Comparison between stock options and ordinary salary. Higher incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/ incentive pay schemes	Tax Wedge on salary	Difference	Explaining the results
		A	B	A-B	
JAPAN			0.374		
Standard					
	i)	0.26		–0.1140	The tax wedge is lower because social security contributions are not applied.
	ii)	0.5624		0.1884	The tax wedge is higher because the deduction of stock options costs is not allowed.
KOREA					
Standard			0.297		
	i)	0.297		0.00	The tax treatment is the same as for salary. Thus tax wedges are identical.
	ii)	0.4939		0.1969	The tax wedge is higher due to the non deductibility of stock options costs.
Concessionary					
	i)	0.00		–0.297	The tax wedge is lower as there is no taxation at personal level and full deduction at corporate level.
	ii)	0.297		0.00	Due to non deductibility, the tax wedge is equal to the corporate income tax rate.
LUXEMBOURG					
			0.5260		
Standard					
Options librement négociables		0.5260		0.00	The tax treatment is the same as for salary. Thus tax wedges are identical.
Options individuelles (i)		0.5260		0.00	
Options individuelles (ii)		0.4604		–0.0656	The tax wedge is lower because of the tax relief at personal level.
MEXICO					
			0.359		
Standard					Tax wedge of stock options is higher (56.07%) when deduction at corporate level is not allowed.
i)		0.349		–0.01	
ii)		0.5607		0.2017	
Profit sharing plans					
i)		0.3500		–0.009	Tax wedge of profit sharing plans is lower only when there is no taxation for PIT and SSC purposes (case i)
ii)		0.5103		0.1513	
NETHERLANDS					
			0.52		
Quoted stock options					
	Standard (1)	0.5443		0.0243	Tax wedge is higher due to the presumptive taxation of stock options.
	Standard (2)	0.52		0.00	The tax treatment is the same. Thus tax wedges are identical.
Non-quoted stock options					
	Standard (1)	0.5596		0.0243	Tax wedge is higher due to the presumptive taxation of stock options and the application of the formula.
	Standard (2)	0.52		0.00	The tax treatment is the same. Thus tax wedges are identical.
NEW ZEALAND					
			0.39		
Standard		0.5913		0.2013	Tax wedge is higher because corporate deduction is not allowed.
NORWAY					
			0.5505		
Standard					Tax wedges are the same when deduction at corporate level is allowed (purchased shares). In the other case, tax wedge becomes higher.

Table 2.8. **Comparison between stock options and ordinary salary. Higher incomes** *(cont.)*

Stock options/incentive pay schemes		Tax Wedge on stock options/ incentive pay schemes A	Tax Wedge on salary B	Difference A-B	Explaining the results
	Purchased shares	0.5505		0.0	
	New issued shares	0.6658		0.1153	
POLAND					
			0.453		
Standard					
Purchased shares		0.19		–0.263	The tax wedge is lower because of the preferential tax treatment at personal level.
New issued shares		0.4168		–0.0362	Even if corporate deduction is not allowed, the tax wedge is lower because the tax treatment at the personal level is preferential.
PORTUGAL					
			0.475		
Standard		0.24		–0.235	Tax wedge is lower because social security contributions are not applied.
SLOVAK REPUBLIC					
			0.544		
Standard		0.3625		–0.1815	Tax wedge is lower because social security contributions are not applied and benefits are taxed as capital gains at a lower rate.
SPAIN					
			0.489		For stock options, tax wedge is the same as on salary when corporate deduction is available (case ii, purchased shares). Tax wedge is lower when the taxable base for PIT purposes is lower (case i, purchased shares). In the other cases, tax wedge is higher as corporate deduction is not allowed.
Standard					
i) Purchased shares		0.3658		–0.1232	
i) New issued shares		0.5604		0.0714	
ii) Purchased shares		0.4855		–0.0035	
ii) New issued shares		0.6354		0.1464	
					For incentive pay schemes, tax wedge is zero when there is no taxation at corporate (deduction) and personal level (case i). Tax wedge is the same as on salary when employee benefit is taxed at personal level (case ii).
Incentive pay scheme					
	(i)	0.0000		–0.4890	
	(ii)	0.4850		–0.0035	
SWEDEN					
					The tax treatment is the same. Thus tax wedges are identical.
Standard		0.6275	0.6275	0.0000	
SWITZERLAND					
					The tax treatment is the same. Thus tax wedges are the same.
Standard		0.409	0.409	0.0000	
TURKEY					
					The tax treatment is the same. Thus tax wedges are identical.
Standard		0.4795	0.4795	0.00	

Table 2.8. **Comparison between stock options and ordinary salary. Higher incomes** *(cont.)*

Stock options/incentive pay schemes	Tax Wedge on stock options/ incentive pay schemes	Tax Wedge on salary	Difference	Explaining the results
	A	B	A-B	
UK				
		0.3023		
Standard	0.3023		0.00	For standard stock options schemes, the tax treatment is the same; thus the tax wedges are identical.
CSOP, SAYE, EMI, SIP	0.00		–0.302	For concessionary schemes, tax wedge is zero when the annual exemption is available.
CSOP, SAYE, EMI, SIP	0.20		–0.1023	When employee benefits are taxed at personal level (because exceeding the annual exempt amount), tax wedge is equal to the capital gains tax rate.
CSOP, SAYE, SIP	0.10		–0.2023	The taper relief (50%) reduces the tax wedge.
EMI	0.05		–0.2523	For EMI schemes, the taper relief reduces the tax wedge even more.
US				
		0.4544		
Nonqualified stock options	0.4544		0.000	The tax treatment is the same. Thus tax wedges are identical.
Incentive stock options	0.5481		0.0937	The tax wedge is higher because of the non deductibility of costs, even if at personal level the treatment is preferential.
Employee stock purchase plans	0.5481		0.0937	

Notes

1. In *Austria,* in principle the taxable benefit is considered non-current income taxed at 6%, but in general it exceeds – together with the 13th and 14th pay – 1/6 of current income and is therefore taxed as such (with the progressive schedule). In *Japan* there is an argument that the amount derived as the difference between the exercise price and the market price at the time of exercise should be treated as occasional income, not as employment income. In this case the income is halved for the purpose of personal income taxation.
2. The option with a fixed time limit for the exercise must be eligible to all or to a certain group of employees, it must be on own shares or on shares of a company of the same group.
3. For instance, where a stock option plan provides for the option to be exercised seven years after the granting, the advantage of any kind shall be fixed at a 17% flat rate [15 + (7-5)] of the shares' value at the day of their granting.
4. In Japan, there is a special treatment prescribed in tax law that if the stock option is qualified under certain requirements taxation is deferred until the stocks are actually sold. In this case the difference between the actual sale price and the exercise price is taxed as capital gain.
5. In Portugal, there are no specific provisions related to corporate income tax deductibility of costs relating to stock option plans. These costs will be deductible if accounted for as staff costs.
6. For instance, in Japan there are two methods allowed for a company to provide its employees with stock option, these being: 1) "treasury stock" method and 2) "warrant" method. In the case of the "treasury stock" method, the amount of difference between the price of treasury stocks when the company repurchased them and the exercise price is deemed to be profit (if the latter is more than the former) or loss (if the opposite) for the purpose of corporate tax calculation. In the case of the "warrant" method, it is regarded as capital transaction, and therefore there is no effect on the corporate tax calculation.
7. Given these assumptions, the empirical methodology and calculations do not always capture the full benefit of stock options. This is the case, for instance, of the US ISO and ESPP schemes that allow deferral of the personal income tax on the option gain (that represents labour compensation) until the stock is sold. By reducing the present value of the tax payment, deferral will reduce (but not necessarily eliminate) the tax penalty shown in the calculations for these schemes.

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Chapter 3

Cross-border Income Tax Issues

1. Introduction

This Chapter considers the cross-border tax treaty issues that may arise from the use of stock-options as part of employee remuneration packages and presents changes to the Commentary on the OECD Model Tax Convention on how to deal with some of these issues. While the Chapter focuses primarily on issues related to the taxation of the employee, it should be noted that employee stock-option plans (ESOPs)[1] also raise transfer pricing issues which are not dealt with in this Chapter.

This Chapter deals exclusively with ESOPs and not with other forms of equity-based remuneration such as share grant or share purchase plans,[2] phantom stock plans, share appreciation rights or employee options granted by non-corporate employers (*e.g.* mutual fund trusts granting options to acquire units of the trust). While many of the issues and principles discussed in this Chapter would be relevant as regards the tax treatment of such forms of equity-based remuneration, the characteristics of each of these would need to be taken into account before reaching any conclusion as to how or whether to apply to them the principles developed in this Chapter.

For purposes of this Chapter, no distinction should be made between "in the money"[3] and "out of the money" options; all options are covered by this Chapter regardless of whether they provide for a strike price that is less than, equal to, or greater than the value of the underlying share at the time of grant.

This Chapter does not deal with social security issues relative to stock-options. Also, valuation issues related to stock-options are only dealt with to a limited extent, *i.e.* primarily where there are related currency-exchange issues.

2. Background on ESOPs

The following briefly describes some of the various aspects of ESOPs as understood for purposes of this Chapter:

Stock-option A stock-option is a call option, *i.e.* a right to acquire a share from a given seller at a given moment (so-called "European" options) or during a given period (so-called "American" options) for a given price (strike price).

ESOP Under an ESOP, stock-options are granted to employees usually subject to certain restrictions (*e.g.* "vesting" period). The "seller" of the shares is often, but not necessarily, the employer (*e.g.* the "seller" could be an associated enterprise). Also, the option may be granted by the employer, an associated enterprise or an intermediary (such as a trust). The share that is acquired pursuant to a stock-option plan is typically issued by the company at that time but it is not uncommon for the share to be a previously issued share that was acquired by the company on the market. Under a typical ESOP, the time of grant corresponds to the moment when the employee is given, generally subject to certain conditions such as a vesting period, options to acquire shares during a certain period of time.

Benefit to the employee[4]

Benefit when the option is granted (or when it subsequently vests): The option is granted to the employee free of charge or below its market value at the time it is granted.

Benefit when the option is exercised: The employee acquires a share at a price below market value and the benefit corresponds to the difference between the price paid and the market value of the share at that time.[5]

Benefit when the shares are sold: To the extent that shares that have been acquired with a stock-option subsequently increase in value, that increase can be realised by simply selling the shares at market value.

Value of a stock option

Financially, an option can be valued at any time, including the time when it is granted (if the period for exercising the option is too long or the conditions attached to it too complex, however, the evaluation risks make the evaluation far less reliable). Financial economists have designed formulae to determine the value of the option. These formulae may take into account various parameters (which may themselves need to be estimated), such as spot price of the share, strike price, maturity, volatility, interest rate and dividend payments. The value of an option also depends on the restrictions placed on the option (*e.g.* a vesting period for the exercise or transfer or a right of cancellation).

Vesting of an option

The concept of vesting is commonly used with respect to American options issued to employees. An option will generally be considered to have vested when all conditions for its exercise have been satisfied and the option can thus be exercised.

Among the typical conditions that must be met before an employee can exercise the option that has been granted to him, it is frequently required that the employee continue to work for the employer during a certain period of time. To the extent that such a condition must be met before the option becomes exercisable, that condition has, in many countries, the legal nature of a condition precedent (common law) or suspensive condition (civil law). The option is not considered to have vested before such a condition has been met. In many countries, however, a condition subsequent (common law) or a resolutory condition (civil law) would not prevent the option from vesting. That would be the case, for example, of a condition that is applicable after the option becomes exercisable and under which the option will be lost if employment is terminated before the option is exercised. When all conditions (such as that one) under which the option may be forfeited have disappeared, the option, which has already vested in the previous example, is said to have "irrevocably" vested. There is therefore an important difference between "vesting" and "irrevocable vesting"; when referring to the time when an option becomes exercisable or may be exercised, this Chapter refers to the time of "vesting" and not to that of "irrevocable vesting".

The concept of vesting creates difficulties as regards European options to the extent that such options do not become exercisable before the expiration date of the option, *i.e.* the date when the option must be exercised (and will be lost if not exercised at that date).[6] For the purposes of this Chapter, it is important to distinguish between a period of employment that is required to obtain the right to exercise an employee stock-option and a period of time that is merely a delay before such option may be exercised (a blocking period). An option should be considered to have vested as soon as all the conditions necessary for the exercise of the option have been met and the right to exercise the option can no longer be forfeited, even if the option is only exercisable at a later date. Thus, for the purpose of this Chapter, a European option should be considered to have vested from the moment employment is no longer required (provided that the other conditions have been satisfied), even if the option may only be exercised at a later date. Where, however, it is provided that the option will be forfeited if the employment is terminated before the date on which the option may be exercised, the option will not, for purposes of this revised draft, be considered to have vested before that date.

3. Issues related to the employee

3.1. Timing mismatch in taxing the employment benefit

The fact that the benefits from an employee stock-option are taxed at different times in different countries is a clear source of difficulties.

Typically, a country may tax the benefits resulting from an employee stock-option plan at one or more of the following events:[7]

- when the option is granted;
- when the option vests or irrevocably vests;
- when the option is exercised or otherwise disposed of;
- when there are no longer any restrictions on the sale of the shares acquired under the option; or
- when the shares acquired under the option are sold.[8]

Also, the same country may tax different parts of the benefits at different times. One example would be where one part of the benefit is taxed at the time the option is granted and another part at the time the shares are sold; another example would be where the "in the money" portion of the benefit related to a stock-option is taxed earlier than the residual benefit (*i.e.* the benefit that represents the increase in the value of the share after the option was granted).

Clearly, where different countries tax the benefits of ESOPs at different times, this may result in the usual problem of relieving double taxation when the States of residence and source do not tax at the same time (problems which are partly addressed by carry-forward or carry-back of foreign tax credits).

This timing difference may also result in questions as to whether relief should be given at all and if it is, on what income. For instance, if the State of residence does not tax stock-options but considers instead that the whole amount of a gain realised upon the sale of the shares is a capital gain, it may be reluctant to exempt the income taxed in the State of source on a different event (*e.g.* the exercise of the option) or to grant a credit for that tax. Even if the State of residence agrees to give a credit, it will usually restrict the credit to the amount of domestic tax levied on the same income, which would require it to identify the portion of what it views as a capital gain that corresponds to what has been taxed by the State of source.

The following example may be used to illustrate the problems arising from taxation at different times:

Example: Employee E, who is a resident of State A, worked seven months in State B. Part of the remuneration that E derived from his employment in State B was stock-options of company Y, a resident of State B. Under State B law, the employment benefit resulting from stock-options is taxed when the shares are sold, and is deemed to correspond to the difference between the sale price of the shares and the strike price (the amount paid by the employee). In State A, the employment benefit resulting from stock-options corresponds to the difference between the value of the shares when the option is exercised and the amount paid by the employee; that benefit is taxed when the option is exercised. E exercises the option in year 1, when he is taxed in State A. He sells the shares in year 3, when State B taxes him on the gain.

Article 15 allows the State of source to tax not only income from employment which is paid, credited or otherwise definitively acquired when the employee is present therein, but also any income obtained or realised before or after such presence that is derived from the services performed in the State of source. The condition in Article 15 for taxation by the State of source is that the income concerned is derived from the exercise of employment in that State, regardless of when that income may be paid, credited etc. State B can therefore tax the gain in accordance with Article 15. However, State B will levy that tax upon the sale of the shares. Since State A will have already taxed the same benefit two years earlier, how will relief from double taxation be granted? Also, will State A be able to argue that State B has taxed a different event so as to deny relief? Finally, should State A attempt to determine which part of the tax levied by State B corresponds to what it taxes (*i.e.* the difference between the strike price and the value of the share at the time that the option was exercised)?

An additional problem may arise if the domestic law of State A sources the benefit from the exercise of the stock-option to State A and not to State B. In that case, however, if State A recognises State B's right to tax the benefit under the State A-State B tax convention, State A (the State of residence) must recognise State B’s (the State of source) right to tax the benefit under the sourcing rules of the convention entered into by these two States. The rules of the convention concerning elimination of double taxation (if they are based on the OECD Model) will then effectively require State A to exempt or to give a credit even if its domestic law sources the income differently (as explained in section III of the report on the Application of the OECD Model Tax Convention to Partnerships).

As explained previously, the different country rules for taxing stock-options create risks of double taxation. While it may be argued that the same risk arises with respect to any part of an employee's remuneration, including his salary, the fact is that it is more likely to be a problem in the case of stock-options. This is because stock-options are often taxed at a time (*e.g.* when the option is exercised or the shares sold) that is very different from the time when the employment services are rendered.

The problem of relieving double taxation when the States of residence and source do not tax stock-options at the same time is partly addressed by the fact that the application of the relief of double taxation provisions of the OECD Model Convention is not restricted in time, *i.e.* relief must be given even if the State of residence taxes at a different time from the State of source. This, however, may not solve the issue as regards the countries that do not follow Article 23A or 23B of the Model Tax Convention, for instance because they link the relief of double taxation that they give under tax conventions to what is provided under their domestic laws. These countries, however, would be expected to seek other ways to relieve the double taxation which might otherwise arise.

The other issue discussed arises where the State of residence and the State of source not only tax at different times but, in so doing, also characterise the benefit differently (capital gain or employment income). That issue is discussed in the section below.

Based on that analysis, the Committee concluded that the following changes should be made to the Commentary on the Model Tax Convention:

Add the following paragraph 2.2 to the Commentary on Article 15:

"2.2. The condition provided by the Article for taxation by the State of source is that the salaries, wages or other similar remuneration be derived from the exercise of employment in that State. This applies regardless of when that income may be paid to, credited to or otherwise definitively acquired by the employee."

Add the following heading and paragraphs 12 and 12.1 to the Commentary on Article 15:

"**The treatment of employee stock-options**

12. The different country rules for taxing employee stock-options create particular problems which are discussed below. While many of these problems arise with respect to other forms of employee remuneration, particularly those that are based on the value of shares of the employer or a related company, they are particularly acute in the case of stock-options. This is largely due to the fact that stock-options are often taxed at a time (*e.g.* when the option is exercised or the shares sold) that is different from the time when the employment services that are remunerated through these options are rendered.

12.1. As noted in paragraph 2.2, the Article allows the State of source to tax the part of the stock-option benefit that constitutes remuneration derived from employment exercised in that State even if the tax is levied at a later time when the employee is no longer employed in that State."

Add the following paragraph 32.8 to the Commentary on Articles 23 A and 23 B:

F. Timing Mismatch

"32.8. The provisions of the Convention that allow the State of source to tax particular items of income or capital do not provide any restriction as to when such tax is to be levied (see, for instance, paragraph 2.2 of the Commentary on Article 15). Since both Articles 23 A and 23 B require that relief be granted where an item of income or capital may be taxed by the State of source in accordance with the provisions of the Convention, it follows that such relief must be provided regardless of when the tax is levied by the State of source. The State of residence must therefore provide relief of double taxation through the credit or exemption method with respect to such item of

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income or capital even though the State of source taxes it in an earlier or later year. Some States, however, do not follow the wording of Article 23A or 23B in their bilateral conventions and link the relief of double taxation that they give under tax conventions to what is provided under their domestic laws. These countries, however, would be expected to seek other ways (the mutual agreement procedure, for example) to relieve the double taxation which might otherwise arise in cases where the State of source levies tax in a different taxation year."

3.2. Distinguishing employment income from capital gains

There is no doubt that a stock-option provided as part of an employment package falls within the words "salaries, wages and other similar remuneration", even when it is granted by a company which is not the employer of the recipient (*e.g.* when the ESOP covers employees of subsidiaries).[9] While it is clear that the granting of an employee stock-option constitutes part of the remuneration of the employee for purposes of Article 15, some commentators have considered that the holding and subsequent exercise of the option constitute investment decisions and that the gain represented by the difference between the value of the option at the time it is exercised and the value of the option at the time it was granted constitutes a capital gain falling under Article 13, which does not allow source taxation of the gain, rather than under Article 15, which does. Others have suggested that this analysis should only apply to the part of the gain that accrues after the option has vested since the employee cannot make an investment decision to keep or exercise the option before that time. It has also been suggested, however, that any benefit derived from the option, including any gain realised upon the sale of shares acquired with that option, should be considered as employment income as the employee exercised the option and acquired the share solely because he was remunerated with that option.

If countries were to adopt different interpretations on this matter, the resulting conflicts of interpretation would create double taxation or dual exemption situations. Apart from this possible conflict of interpretation, a conflict of qualification[10] could arise between a country taxing a stock-option at the time of granting and one taxing it at the time of exercising. The first State could conclude that, under its domestic law, the amount of the capital gain realised upon the sale of the shares which falls under Article 13 (and is therefore not taxable in the State of source) is the difference between the sale price and the total of the strike price and the value of the option when it was granted. The latter State, however, would consider that the capital gain would only be the part of the gain that exceeds the value of the share at the time of exercising the option. To the extent that the first State would agree that the latter State's view does not violate the treaty, this would be a conflict of qualification within the meaning of Section III of the report on the Application of the Model Tax Convention to Partnerships and should be dealt with and solved according to the principles described in paragraphs 32.1 to 32.7 of the Commentary on Articles 23A and 23B. Thus, since the first State agrees that the latter State's taxation does not violate the treaty, that taxation must be considered to be "in accordance with the provisions of the Convention" and the first State must provide relief (to the extent that the Article on elimination of double taxation of the relevant Convention is based on the wording of the Model Tax Convention).

The issue of whether a benefit is a capital gain or employment income also arises with respect to gains realised upon the alienation of stock-options by an employee. Such alienation could occur if the options are sold or upon their cancellation or acquisition by the employer (*e.g.* on termination of employment or on replacement of the option).

Treaty mismatches resulting in double taxation or non-taxation are especially likely to occur where a country treats the entire benefit from an employee stock-option as a capital gain since a majority of countries would consider all or at least part of that benefit as employment income.

The fact that a large number of countries tax as employment income the whole gain realised at the time of exercising the option (*i.e.* the difference between the market value of the shares at that time and the amount paid by the employee to acquire them), indicates that these countries consider that, for the purposes of Articles 13 and 15, the dividing line is the moment when the option is exercised and the employee becomes a shareholder.

The Committee agreed that this view, derived from the practice followed by many countries, was the most appropriate one. Not only is it practical to adopt the date of exercise as the dividing line between employment income and capital gain but it also appears right to consider that the employee should be treated as an investor only from the time that he acquires the quality of shareholder and invests money in order to do so. The Committee therefore agreed that any benefit accruing in relation to the stock-option up to the time when the option is exercised, sold or otherwise alienated should be treated as income from employment to which Article 15 applies.

The Committee also agreed that the benefits resulting from an employee stock-option could not, as a general rule, fall under either Article 21 or Article 18 even if the option was exercised after termination of the employment or retirement. Article 21, by its residual nature, will not apply since either Article 13 or 15 will apply. Article 18 deals only with pensions and other similar remuneration and these words do not cover employee stock-options. Thus, for instance, if an option that became exercisable before an employee retired is exercised after that employee's retirement, Article 18 will not apply to the benefit derived from the option.

The following example illustrates the conclusions reached by the Committee:

Example: Employee E is resident and working in State A on 1 January 1998. He is granted an option to purchase shares for a price of 1, conditional on remaining in that employment at least until 1 January 2001. On 31 December 1999 he moves to work in State B, where he becomes a resident. He exercises the option on 1 January 2001 when the market value of the shares acquired is 7 but does not sell any shares until 31 December 2002, when the market value is 9. Both State A and State B tax at exercise and State B also taxes when the shares acquired are sold.

The gain that arises between the grant of the option and the date of vesting and exercise, *i.e.* 6, should be regarded as income from employment covered by Article 15. State A may tax the part of the stock option benefit that was derived from employment carried on there. If each working year is 260 days, then State A may tax 2/3 of this gain, *i.e.* 4 (this results from the conclusions presented in the section below which deals with the determination of the employment services to which the option relates). State B should provide relief for this tax, either by an exemption or credit method. But once the stock option has been exercised, then the employee is in the same position as any other shareholder. The gain that relates to the period between acquisition and sale of the shares acquired under the option will fall under Article 13 and State B, as the State of residence, will therefore have sole taxing rights on this gain.

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The Committee therefore decided that these conclusions should be incorporated in the Model Tax Convention through the following changes:

Add the following paragraph 32 to the Commentary on Article 13:

"32. There is a need to distinguish the capital gain that may be derived from the alienation of shares acquired upon the exercise of a stock-option granted to an employee or member of a board of directors from the benefit derived from the stock-option that is covered by Articles 15 or 16. The principles on which that distinction is based are discussed in paragraphs 12.2 to 12.5 of the Commentary on Article 15 and paragraph 3.1 of the Commentary on Article 16."

Replace paragraph 2.1 of the Commentary on Article 15 by the following (changes to the existing text appear in ***bold italics****):*

"2.1. Member countries have generally understood the term "salaries, wages and other similar remuneration" to include benefits in kind received in respect of an employment (*e.g.* ***stock-options***, the use of a residence or automobile, health or life insurance coverage and club memberships)."

Add the following paragraphs 12.2 to 12.5 to the Commentary on Article 15:

"12.2. While the Article applies to the employment benefit derived from a stock-option granted to an employee regardless of when that benefit is taxed, there is a need to distinguish that employment benefit from the capital gain that may be derived from the alienation of shares acquired upon the exercise of the option. This Article, and not Article 13, will apply to any benefit derived from the option itself until it has been exercised, sold or otherwise alienated (*e.g.* upon cancellation or acquisition by the employer or issuer). Once the option is exercised or alienated, however, the employment benefit has been realised and any subsequent gain on the acquired shares (*i.e.* the value of the shares that accrues after exercise) will be derived by the employee in his capacity of investor-shareholder and will be covered by Article 13. Indeed, it is at the time of exercise that the option, which is what the employee obtained from his employment, disappears and the recipient obtains the status of shareholder (and usually invests money in order to do so). Where, however, the option that has been exercised entitles the employee to acquire shares that will not irrevocably vest until the end of a period of required employment, it will be appropriate to apply this Article to the increase in value, if any, until the end of the required period of employment that is subsequent to the exercise of the option.

12.3. The fact that the Article does not apply to a benefit derived after the exercise or alienation of the option does not imply in any way that taxation of the employment income under domestic law must occur at the time of that exercise or alienation. As already noted, the Article does not impose any restriction as to when the relevant income may be taxed by the State of source. Thus, the State of source could tax the relevant income at the time the option is granted, at the time the option is exercised (or alienated), at the time the share is sold or at any other time. The State of source, however, may only tax the benefits attributable to the option itself and not what is attributable to the subsequent holding of shares acquired upon the exercise of that option (except in the circumstances described in the last sentence of the preceding paragraph).

12.4. Since paragraph 1 must be interpreted to apply to any benefit derived from the option until it has been exercised, sold or otherwise alienated, it does not matter how such benefit, or any part thereof, is characterized for domestic tax purposes. As a result, whilst the Article will be interpreted to allow the State of source to tax the benefits accruing up to the time when the option has been exercised, sold or otherwise alienated, it will be left to that State to decide how to tax such benefits, *e.g.* as either employment income or capital gain. If the State of source decides, for example, to impose a capital gains tax on the option when the employee ceases to be a resident of that country, that tax will be allowed under the Article. The same will be true in the State of residence. For example, while that State will have sole taxation right on the increase of value of the share obtained after exercise since this will be considered to fall under Article 13 of the Convention, it may well decide to tax such increase as employment income rather than as a capital gain under its domestic law.

12.5. The benefits resulting from a stock-option granted to an employee will not, as a general rule, fall under either Article 21, which does not apply to income covered by other Articles, or Article 18, which only applies to pension and other similar remuneration, even if the option is exercised after termination of the employment or retirement."

3.3. Difficulty in determining to which services the option relates

Subject to the exception in its paragraph 2, Article 15 allows the State of source to tax remuneration that is derived from services exercised therein. In many cases, it can be difficult to determine to which services the granting of a stock-option relates. In some cases, an option may be regarded as rewarding previous performance, in others as an incentive for future performance.

The contractual arrangements would certainly be relevant in that respect. For instance, conditions under which an employee would be prevented from exercising an option unless he remained with the company for a certain period of time would suggest that the option rewards future services. Conversely, the fact that an option is granted to all employees who were employed during a certain period, that options are granted on the basis of past performance, that it is not possible for an employee to lose the benefit of options granted or that the number of options granted depends on the financial results of a previous accounting year could support the opposite view.

Example: Employee E, who is a resident of State A, is an employee of a company Y, a resident of State A which has a permanent establishment in State B. From 1990 and until 31 December 1997, E worked in State A. In 1998, he worked in State B for the permanent establishment situated therein, without becoming a resident of State B for purposes of the State A-State B tax convention. On 1 January 1999, he came back to State A. On 31 March 1999, E receives a stock-option under company Y stock-option plan. Under that plan, options are given on 31 March each year to individuals who were employed throughout the previous year. Options are only granted if the company has made profits during the previous financial year. These options are valid for 5 years but may not be exercised within 24 months after they have been granted and are only irrevocably acquired by E if he remains an employee during that period of 24 months. On 20 June 2001, E exercises the option. At that time, State B decides to tax as employment income related to the 1998 taxation year the difference between the amount paid by E and the market value of the shares at that time. State A, however, considers that the stock-option does not relate to E's period of employment in State B.

In that situation, the conflict between States A and B can be seen as either a conflict of facts (the States disagree as to whether the option relates to the period of employment in State B or not) or of interpretation of Article 15 [the States disagree as to the meaning of the words (found in Article 15) "remuneration derived from employment exercised in a State"]. In both cases, the principles developed in section III of the report on the Application of the Model Tax Convention to Partnerships to deal with conflicts of qualification would not resolve the issue since there is no agreement that the State of source has levied tax "in accordance with the provisions of the Convention".

The Committee discussed extensively how this issue should be handled and concluded that the best approach that could be achieved would be to provide, in the Commentary on Article 15, a general set of principles that could be applied based on the facts and circumstances of each case, including the relevant contractual arrangements. It therefore decided to add the following paragraphs 12.6 to 12.13 to the Commentary on Article 15:

> "12.6. Paragraph 1 allows the State of source to tax salaries, wages and other similar remuneration derived from employment exercised in that State. The determination of whether and to what extent an employee stock-option is derived from employment exercised in a particular State must be done in each case on the basis of all the relevant facts and circumstances, including the contractual conditions associated with that option (*e.g.* the conditions under which the option granted may be exercised or disposed of). The following general principles should be followed for that purpose.
>
> 12.7. The first principle is that, as a general rule, an employee stock-option should not be considered to relate to any services rendered after the period of employment that is required as a condition for the employee to acquire the right to exercise that option. Thus, where a stock-option is granted to an employee on the condition that he provides employment services to the same employer (or an associated enterprise) for a period of three years, the employment benefit derived from that option should generally not be attributed to services performed after that three-year period.
>
> 12.8. In applying the above principle, however, it is important to distinguish between a period of employment that is required to obtain the right to exercise an employee stock-option and a period of time that is merely a delay before such option may be exercised (a blocking period). Thus, for example, an option that is granted to an employee on the condition that he remains employed by the same employer (or an associated enterprise) during a period of three years can be considered to be derived from the services performed during these three years while an option that is granted, without any condition of subsequent employment, to an employee on a given date but which, under its terms and conditions, can only be exercised after a delay of three years, should not be considered to relate to the employment performed during these years as the benefit of such an option would accrue to its recipient even if he were to leave his employment immediately after receiving it and waited the required three years before exercising it.
>
> 12.9. It is also important to distinguish between a situation where a period of employment is required as a condition for the acquisition of the right to exercise an option, *i.e.* the vesting of the option, and a situation where an option that has already vested may be forfeited if it is not exercised before employment is terminated (or within a short period after). In the latter situation, the benefit of the option should not be considered to relate to services rendered after vesting since the employee has already obtained the benefit

and could in fact realise it at any time. A condition under which the vested option may be forfeited if employment is terminated is not a condition for the acquisition of the benefit but, rather, one under which the benefit already acquired may subsequently be lost. The following examples illustrate this distinction:

- Example 1: On 1 January of year 1, a stock-option is granted to an employee. The acquisition of the option is conditional on the employee continuing to be employed by the same employer until 1 January of year 3. The option, once this condition is met, will be exercisable from 1 January of year 3 until 1 January of year 10 (a so-called "American" option).[11] It is further provided, however, that any option not previously exercised will be lost upon cessation of employment. In that example, the right to exercise that option has been acquired on 1 January of year 3 (*i.e.* the date of vesting) since no further period of employment is then required for the employee to obtain the right to exercise the option.

- Example 2: On 1 January of year 1, a stock-option is granted to an employee. The option is exercisable on 1 January of year 5 (a so-called "European" option). The option has been granted subject to the condition that it can only be exercised on 1 January of year 5 if employment is not terminated before that date. In that example, the right to exercise that option is not acquired until 1 January of year 5, which is the date of exercise, since employment until that date is required to acquire the right to exercise the option (*i.e.* for the option to vest).

12.10. There are cases where that first principle might not apply. One such case could be where the stock-option is granted without any condition to an employee at the time he either takes up an employment, is transferred to a new country or is given significant new responsibilities and, in each case, the option clearly relates to the new functions to be performed by the employee during a specific future period. In that case, it may be appropriate to consider that the option relates to these new functions even if the right to exercise the option is acquired before these are performed. There are also cases where an option vested technically but where that option entitles the employee to acquire shares which will not vest until the end of a period of required employment. In such cases, it may be appropriate to consider that the benefit of the option relates to the services rendered in the whole period between the grant of the option and the vesting of the shares.

12.11. The second principle is that an employee stock-option should only be considered to relate to services rendered before the time when it is granted to the extent that such grant is intended to reward the provision of such services by the recipient for a specific period. This would be the case, for example, where the remuneration is demonstrably based on the employee's past performance during a certain period or is based on the employer's past financial results and is conditional on the employee having been employed by the employer or an associated enterprise during the specific period to which these financial results relate. Also, in some cases, there may be objective evidence demonstrating that during a specific period of past employment, there was a well-founded expectation among participants to an employee stock-option plan that part of their remuneration for that period would be provided through the plan by having stock-options granted at a later date. This evidence might include, for example, the consistent practice of an employer that has granted similar levels of stock-options over a number of years, as long as there was no indication that this practice might be discontinued. Depending on other factors, such evidence may be highly relevant for

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purposes of determining if and to what extent the stock-option relates to such a period of past employment.

12.12. Where a period of employment is required to obtain the right to exercise an employee's stock-option but such requirement is not applied in certain circumstances, *e.g.* where the employment is terminated by the employer or where the employee reaches retirement age, the stock-option benefit should be considered to relate only to the period of services actually performed when these circumstances have in fact occurred.

12.13. Finally, there may be situations in which some factors may suggest that an employee stock-option is rewarding past services but other factors seem to indicate that it relates to future services. In cases of doubt, it should be recognised that employee stock-options are generally provided as an incentive to future performance or as a way to retain valuable employees. Thus, employee stock-options are primarily related to future services. However, all relevant facts and circumstances will need to be taken into account before such a determination can be made and there may be cases where it can be shown that a stock-option is related to combined specific periods of previous and future services (*e.g.* options are granted on the basis of the employee having achieved specific performance targets for the previous year, but they become exercisable only if the employee remains employed for another three years)."

3.4. Employment services that are provided in more than one State

Where the employment services to which a stock-option relates have been provided in more than one State, an allocation rule is necessary for purposes of the application of Article 15 and Articles 23A and 23B.

A logical allocation method would be to consider that the employment benefit attributable to a stock-option has to be attributed to services performed in a particular country in proportion of the number of days during which employment has been exercised[12] in that country to the total number of days during which the employment from which the stock-option is derived has been exercised.[13]

Example: An employee stock-option relates to a period of 3 years of employment (each year has 220 working days). During year 1, the employee is a resident of State A (the country of which the employer is a resident) but provides services during 110 days in State B (his presence there exceeds 183 days, which gives that country source taxing rights) and during 20 days in State C (because the employee's presence does not exceed 183 days and the other conditions of paragraph 2 of Article 15 are fulfilled, State C does not have source taxing rights under Article 15 of the A-C treaty). During years 2 and 3, he is a resident of State D where he provides all his services.

In this case, 90/660 of the benefit should be allocated to the services rendered in State A, 110/660 to the services rendered in State B, 20/660 to the services rendered in State C and 440/660 to the services rendered in State D. This allocation applies for purposes of determining to what extent the stock-option benefit is derived from services rendered in each State. This is necessary for the purpose of determining the extent to which Article 15 gives taxing rights to the State of source as well as for the purpose of determining on what part of the benefit the State of residence must provide relief of double taxation under Article 23. Any part of the benefit that is allocated to services rendered in a State that is precluded from taxing under paragraph 2 of Article 15 of the Convention (*e.g.* State C in the above example) will therefore not be considered to be attributable to services rendered in another State (*e.g.* State A, B or D in the example) even if it cannot be taxed in the State to which it is attributed. However, while the allocation will be used for purposes of determining on which part of the income the State of residence is obliged to give credit, it will not operate to restrict the taxing rights of that State except, of course, if such restriction results from the fact that relief of double taxation is provided through the exemption method. As explained in the section that deals with multiple residence taxation (see below), this allocation will not, therefore, be sufficient to avoid the double taxation that can result from timing mismatches in the taxation of stock-options by different States of residence.

The Committee agreed that the above allocation method would be the most appropriate one. It therefore decided to add the following paragraph 12.14 to the Commentary on Article 15:

"12.14. Where, based on the preceding principles, a stock-option is considered to be derived from employment exercised in more than one State, it will be necessary to determine which part of the stock-option benefit is derived from employment exercised in each State for purposes of the application of the Article and of Articles 23A and 23B. In such a case, the employment benefit attributable to the stock-option should be considered to be derived from a particular country in proportion of the number of days during which employment has been exercised in that country to the total number of days during which the employment services from which the stock-option is derived has been exercised. For that purpose, the only days of employment that should be taken into account are those that are relevant for the stock-option plan, *e.g.* those during which services are rendered to the same employer or to other employers the employment by whom would be taken into account to satisfy a period of employment required to ~~irrevocably~~ acquire ***the right to exercise*** the option."

The following two examples illustrate the effect of this paragraph:

Example 1: Employee E is resident and working in State A on 1 January 1998. He is granted an option to purchase shares for a price of 1, conditional on remaining in that employment until at least 1 January 2001. On 31 December 1999 he moves to work in State B, of which he becomes a resident. He exercises the option on 1 July 2001 when the market value of the shares acquired is 8 and sells all the shares so acquired immediately. The benefit from the stock option should be regarded as income from employment covered by Article 15. State A may tax the part of the stock option benefit that was derived from employment carried on there, but only as a proportion of those days that were relevant for the stock option plan. If each working year is 260 days, then the days relevant to the stock option plan total 780 (3×260). State A may tax 520 (2×260) days of this as deriving from employment carried on there, *i.e.* 66.7% and State B may tax 260 days as deriving from employment exercised in State B. The remaining 130 days of employment between the date of vesting and exercise were not relevant to the stock option plan and are therefore ignored.

Example 2: Employee E is resident and working in State A on 1 January 1998. He is granted an option to purchase shares for a price of 1, conditional on remaining in that employment until at least 1 January 2001. On 31 December 1999 he moves to work in State B. Due to ill health, he terminates his employment on 30 June 2000 but is allowed to keep the option. He actually exercises it on 1 January 2001 when the market value is

7. If each working year is 260 days, then the days relevant to the stock option plan total only 650 (2½ x 260) and this is the whole period of employment. State A may tax 520 (2 x 260) days out of this total 650 as deriving from employment carried on in State A, *i.e.* 80%.

The Committee also agreed that Contracting States should be free to agree bilaterally to adopt other approaches for the determination of whether and to what extent a particular employee stock-option is derived from employment services rendered in a particular State, keeping in mind that such departures may create difficulties in situations where other States are involved. It therefore decided to add the following paragraph 12.15 to the Commentary on Article 15:

"12.15. It is possible for Member countries to depart from the case-by-case application of the above principles (in paragraphs 12.7 to 12.14) by agreeing to a specific approach in a bilateral context. For example, two countries that tax predominantly at exercise of an option may agree, as a general principle, to attribute the income from an option that relates primarily to future services to the services performed by an employee in the two States between date of grant and date of exercise. Thus, in the case of options that do not become exercisable until the employee has performed services for the employer for a specific period of time, two States could agree to an approach that attributes the income from the option to each State based on the number of days worked in each State by the employee for the employer in the period between date of grant and date of exercise. Another example would be for two countries that have similar rules for the tax treatment of employee stock-options to adopt provisions that would give to one of the Contracting States exclusive taxation rights on the employment benefit even if a minor part of the employment services to which the option relates has been rendered in the other State. Of course, Member countries should be careful in adopting such approaches because they may result in double taxation or double non-taxation if part of the employment is exercised in a third State that does not apply a similar approach."

3.5. *Multiple residence taxation*

While the preceding comments have focussed primarily on residence-source issues, situations where the benefits from employee stock-options are subject to tax in more than one State do not arise only, and maybe not primarily, because of the source and residence taxation of stock-options. Where an employee who is a resident of one State is taxed as a non-resident in another State, Article 23 provides relief from any double taxation. However, an employee might reside in different countries at the time an option is granted, the time it vests, the time it is exercised and the time the shares acquired with the option are sold. All of these countries may claim the right to tax as States of residence and if each of them has a system that taxes the benefit from the stock-option at the time the taxpayer is a resident of that country,[14] there will be multiple residence taxation. While Article 23 deals with residence-source double taxation, it does not provide relief for all cases of residence-residence double taxation. The risks of multiple residence taxation may be compounded in the case of countries that have a "departure tax" on capital gains, *i.e.* countries that deem capital gains to be realised when a person ceases to be a resident or that maintain, through their tax conventions, a right to tax capital gains of former residents.

The example already used in the section entitled "Difficulty in determining to which services the option relates" may serve to illustrate the limits of the relief of double taxation provided by tax conventions in cases of residence-residence double taxation.

Example: An employee stock-option relates to a period of 3 years of employment (each year has 220 working days). During year 1, the employee is a resident of State A (the country of which the employer is a resident) but provides services during 110 days in State B (his presence there exceeds 183 days, which gives that country source taxing rights) and during 20 days in State C (because the employee's presence does not exceed 183 days and the other conditions of paragraph 2 of Article 15 are fulfilled, State C does not have source taxing rights under Article 15 of the A-C treaty). During years 2 and 3, he is a resident of State D where he provides all his services.

As already discussed, it would seem appropriate to consider that, in this case, 90/660 of the benefit should be allocated to the services rendered in State A, 110/660 to the services rendered in State B, 20/660 to the services rendered in State C and 440/660 to the services rendered in State D.

In the above example, State A will therefore be entitled, under each of the A-B, A-C and A-D treaties, to tax the whole of the employment benefit from the stock-option provided that it does so while the employee is a resident of State A (which it will do if it taxes at grant). In this case, however, it will be obliged to provide relief of double taxation as regards the taxation, by State B, of 110/660 of the benefit and the taxation, by State D, of 440/660 of the benefit (these parts correspond to the services rendered in these States for which Article 15 of the A-B and A-D treaties gives source taxing rights to these States). As a State of source, State B will only be entitled to tax 110/660 of the benefit under the A-B and B-D treaties. Both the A-C and C-D treaties will prevent State C from taxing any part of the benefit. Finally, under each of the A-D, B-D and C-D treaties, State D will be entitled to tax the whole of the benefit as a State of residence as long as it does so while the taxpayer qualifies as a resident of State D. In that case, State D will be obliged to provide relief of double taxation as regards the taxation, by State A, of 90/660 of the benefit and the taxation, by State B, of 110/660 of the benefit.

In this example, if State A taxes the employment benefit at grant while State D taxes it at exercise, State A will thus have taxed the whole benefit in year 1 while State D will have done the same in year 3. Article 15 of the A-D treaty will not restrict either State's right to tax any part of the benefit since the taxpayer is a resident of each State when that State considers the income to be derived and therefore applies the Article, *i.e.* at the time of grant (year 1) for State A and at the time of exercise (year 3) for State D.

Of course, Article 23 of the A-D convention will then require each State to provide relief of double taxation, through the credit or exemption method, as regards the tax that the other State has levied on the part of the employment benefit that relates to the services performed in that other State and which that other State has the right to tax as a State of source. Thus State A will be required to provide relief for the tax levied by State D on the part of the benefit that relates to the services rendered in State D in year 2 and 3 (440/660 of the benefit). Conversely, State D will be required to provide relief for the tax levied by State A on the part of the benefit that relates to services rendered in State A in year 1 (90/660 of the benefit).

The result will be that neither State A nor State D will provide relief for taxes levied in the other Contracting State on the part of the benefit that relates to services provided in State B (110/660 of the benefit) or in State C (20/660 of the benefit). Since both State A and State D will themselves provide relief for tax levied by State B (the State of source), double taxation will arise with respect to the part of the benefit that relates to services rendered

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in State B only if both States A and D are credit countries and the tax levied by each on such benefit exceeds that levied by State B. The double taxation situation is more serious as regards State C. In that case, both States A and D have full taxation rights (as the State of residence) and, since State C is the State of source (with no source taxation rights), neither State A nor State D is required to provide relief for taxes levied in the other contracting state. Thus, there is full unrelieved double taxation by States A and D on the part of the benefit that relates to services rendered in State C.

Example:

1. State B levies tax of $35 while State A and State D both levy $40 on the part of the benefit that relates to employment services rendered in State B. State A will provide $35 relief under the A-B treaty and State D will provide $35 relief under the B-D treaty. The employee will hence be taxed $45 ($35 + $40 + $40 – $35 – $35), with an unrelieved double tax of $5 (the overlap of the amounts of tax levied by State A and State D in excess of that levied by State B).

2. State C does not levy any tax on the part of the benefit that relates to employment services rendered in State C while State A and State D each levy $40 on that part of the benefit. State A will not provide any relief under the A-C treaty and State D will also not provide any relief under the D-C treaty. The employee will hence be taxed $80 ($40 + $40), with an unrelieved double tax of $40.

It could be argued that State D is required to provide relief for the tax levied by State A on the part of the benefit that relates to services rendered in States B and C, because that tax has been levied by State A in accordance with the A-D Convention and nothing in that Convention prevents State A from taxing the employee on the basis of his residence when the option is granted. That interpretation, however, produces an absurd result as it would similarly require State A to provide relief for the tax that State D has levied on the same part of the benefit. Clearly, an interpretation that requires each of the two Contracting States to provide relief for the other State's tax on the same income must be rejected.

The example above shows that there are cases where Article 23 would not relieve residence-residence double taxation of the employment benefit arising from an employee stock-option. The mutual agreement procedure could, however, be used to deal with such cases. One possible basis to solve such cases would be for the competent authorities of the two States to agree that each State should provide relief as regards the residence-based tax that was levied by the other State on the part of the benefit that relates to services rendered during the period while the employee was a resident of that other State. Thus, in the above example, it would be logical for State D's competent authority to agree to provide relief (either through a credit or exemption method) for the State A's tax that has been levied on the part of the benefit that relates to services rendered in States B and C since, at the time when these services were rendered, the taxpayer was a resident of State A and not of State D for purposes of the A-D Convention.

The Committee agreed that the Commentary should be modified to recommend that approach to deal with cases of unrelieved residence-residence double taxation. It therefore decided to add the following paragraphs 4.1 to 4.3 the Commentary on Articles 23 A and 23 B:

"4.1. Article 4, however, only deals with cases of concurrent full liability to tax. The conflict in case *a*) may therefore not be solved if the same item of income is subject to the full liability to tax of two countries but at different times. The following example illustrates that problem. Assume that a resident of State R1 derives a taxable benefit from an employee stock-option that is granted to that person. State R1 taxes that benefit when the option is granted. The person subsequently becomes a resident of State R2, which taxes the benefit at the time of its subsequent exercise. In that case, the person is taxed by each State at a time when he is a resident of that State and Article 4 does not deal with the issue as there is no concurrent residence in the two States.

4.2. The conflict in that situation will be reduced to that of case *b*) and solved accordingly to the extent that the employment services to which the option relates have been rendered in one of the Contracting States so as to be taxable by that State under Article 15 because it is the State where the relevant employment is exercised. Indeed, in such a case, the State in which the services have been rendered will be the State of source for purposes of elimination of double taxation by the other State. It does not matter that the first State does not levy tax at the same time (see paragraph 32.8). It also does not matter that the other State considers that it levies tax as a State of residence as opposed to a State of source (see the last sentence of paragraph 8).

4.3. Where, however, the relevant employment services have not been rendered in either State, the conflict will not be one of source-residence double taxation. The mutual agreement procedure could be used to deal with such a case. One possible basis to solve the case would be for the competent authorities of the two States to agree that each State should provide relief as regards the residence-based tax that was levied by the other State on the part of the benefit that relates to services rendered during the period while the employee was a resident of that other State. Thus, in the above example, if the relevant services were rendered in a third State before the person became a resident of State R2, it would be logical for the competent authority of State R2 to agree to provide relief (either through the credit or exemption method) for the State R1 tax that has been levied on the part of the employment benefit that relates to services rendered in the third State since, at the time when these services were rendered, the taxpayer was a resident of State R1 and not of State R2 for purposes of the convention between these two States."

3.6. Compliance issues

In practice, a significant part of the cross-border difficulties relating to ESOPs relates to compliance and administrative issues. Even if the various issues described above could be solved by clarifying what each country may tax and how relief of double taxation should be granted, this would still leave a significant administrative burden for tax administrations and a compliance burden on employees who reside or work successively in different countries. Taxing such employees requires tax administrations to properly determine to which services particular options relate and to take account of transactions in shares or options in foreign companies. As a number of countries and companies have experienced, options in shares of foreign parent companies granted to employees of local subsidiaries may give rise to significant administrative difficulties, particularly since the local employer, which is usually the information and collection point for salary taxation, may not be directly involved in the operation of the ESOP.

One particular problem to which enterprises are sometimes confronted is the requirement to withhold tax at source in two or more jurisdictions on the same or similar employment benefit resulting from a stock-option. For example, if an employee has worked in two different countries during the period of services to which a stock-option relates, it may be that each of these countries will require the employer to withhold tax on the whole amount of the difference between the value of the underlying share and the exercise price when the option is exercised by the employee.

The compliance difficulties related to employee stock-options may be partly reduced by tax administrations making sure that their domestic rules applicable to the treatment of stock-options are clear and well understood by employers. In many countries, the treatment of employee stock-options depends on the interpretation of general rules or principles. Tax administrations should make sure that their interpretation of such rules or principles is easily accessible to taxpayers.

The problem described above in relation to withholding requirements can be alleviated if countries allow enterprises to adjust the amount of tax to be withheld to take account of any relief that will likely be available to the employee on account of double taxation as well as any relief provided for under a tax treaty. Since a majority of countries tax the employment benefit derived from an employee stock-option at exercise (or later), it would be possible to determine, at that point in time, whether or not some of the employment services to which the option relates have been rendered in one or more other countries so as to give rise to relief. Since the amount of tax to be paid in any such other country will probably not be determined at that time, it will not be possible to determine exactly how much relief for double taxation should be given by the State of residence that eliminates double taxation through the credit method. A reasonable approximation of the relief could, however, be used for purposes of the withholding tax requirements applicable at that time since, in this case, the employer of a State that taxes at exercise will know what is the period of time to which the employment benefit derived from the option relates and will also know, from the records kept for domestic wages tax purposes, the periods spent working overseas.

3.7. Alienation of stock-options as a result of a merger or acquisition and replacement of options

Following a merger or acquisition, it is possible that options to acquire shares of a merged or acquired company are replaced by options to acquire shares in a successor or acquiror company. This may result in an alienation of the stock-options for the employee in either his State of residence, a State which has the right to tax these stock-options because they were granted in relation to an employment exercised therein, or both States. An inconsistent treatment could result in a timing mismatch for purposes of the elimination of double taxation. Also, if a State does not consider that stock-options granted to a resident employee would be alienated in the case of a purely domestic merger or acquisition, it would seem logical to expect that a resident employee's options to acquire shares in a foreign company would be similarly treated by that State in a purely foreign merger or acquisition.

> *Example:* Employee E, a resident of State A, has stock-options of company Y, a resident of State B. Company Y merges with company Z, also a resident of State B, to form new company YZ. In the process, all the stock-options of company Y are exchanged for stock-options of company YZ. While a domestic merger does not result in an alienation of the stock-options of resident employees in both States A and B, State A considers that the YZ merger results in an alienation of the stock-options that have been replaced.

A similar issue may arise when an option is replaced by another option or when substantial changes are made to the conditions attached to the option and the employee to which the original option was granted has moved to another country before such replacement or changes. Apart from the issue of the period of services covered by the replacement option (which is dealt with above), the replacement or changes may trigger an alienation of the option in one country but not in the other, with a possible risk of double taxation.

As long as States agree that the new or modified option replaces the previous one for purposes of determining to which period of employment services it relates, they should also agree that the two options should be treated as one for purposes of relief of double taxation. Thus, each State should consider that the tax paid to the other State on the employment benefit derived from either the original or the new or modified option is tax paid on the same option even if these States levy the tax at different times.

3.8. Valuation issues

An issue can arise from cases where there appears to be no gain (or a lesser gain) in the value of a share under the currency of one of the countries, while there appears to be a gain (or a greater gain) under the currency of the other country. That should not be a problem for the computation of the employment benefit derived from an employee stock-option as that benefit is typically computed based on a single transaction and the benefit can then be translated into another currency using a single exchange rate. The problem may arise, however, for the computation of the capital gain derived from the alienation of the shares or for the computation of any gain that would require the valuation of the option at two different times between which there may have been currency fluctuations. That problem, however, is a typical problem related to the computation of capital gains and is not specific to employee stock-options (see paragraphs 16 and 17 of the Commentary on Article 13).

3.9. The granting of stock-options to members of a board of directors

Article 16 of the Model Tax Convention provides that "[d]irectors' fees and other similar payments derived by a resident of a Contracting State in his capacity as a member of the board of directors of a company which is a resident of the other Contracting State may be taxed in that other State." Since the rules of Article 15 are drafted "subject to" those of Article 16, it is the latter Article that will apply to payments which are made to a director in his capacity as such notwithstanding the fact that, under the domestic law of certain States, a director of a company could conceivably be considered to be an employee of that company.

Thus, to the extent that stock-options are granted to a director in his capacity as such (as opposed to those which may be granted to the director by reason of employment functions exercised in another capacity), Article 16 clearly gives taxation rights to the State of residence of the company. Since the State of residence of the director will also have taxing rights (subject to providing relief of double taxation), many of the issues previously discussed in this Chapter will also arise with respect to such options:

- to the extent that the State of residence of the director and the State of residence of the company may tax the benefit of the option at different times, the issues discussed under the section "Timing mismatch in taxing the employment benefit" will potentially arise and should be dealt with as recommended in that section;
- the principles put forward in this Chapter for distinguishing employment income from capital gains will equally be relevant for distinguishing director's fees and similar payments from capital gains;

- because the taxing rights allocated to the state of residence of the company under Article 16 do not depend on services being rendered in that State and extend to the whole of the benefit derived from a stock-option that can be considered to constitute directors' fees or similar payments, there will be no need to identify services to which the option may relate or to allocate the benefit between various countries in which services have been performed;
- the previously-discussed issues related to multiple residence taxation, compliance, valuation and alienation as a result of a merger, acquisition or replacement will also potentially arise in the case of stock-options granted to directors and should be dealt with as recommended in the relevant sections of this Chapter.

For these reasons, the Committee decided to make the following changes to the Commentary on Article 16:

*Replace paragraph 1.1 of the Commentary on Article 16 by the following (additions to the existing text appear in **bold italics**)*

"1.1. Member countries have generally understood the term "fees and other similar payments" to include benefits in kind received by a person in that person's capacity as a member of the board of directors of a company (*e.g.* ***stock-options***, the use of a residence or automobile, health or life insurance coverage and club memberships)."

Add the following paragraph 3.1 to the Commentary on Article 16:

"3.1. Many of the issues discussed under paragraphs 12 to 12.15 of the Commentary on Article 15 in relation to stock-options granted to employees will also arise in the case of stock-options granted to members of the board of directors of companies. To the extent that stock-options are granted to a resident of a Contracting State in that person's capacity as a member of the board of directors of a company which is a resident of the other State, that other State will have the right to tax the part of the stock-option benefit that constitutes director's fees or a similar payment (see paragraph 1.1. above) even if the tax is levied at a later time when the person is no longer a member of that board. While the Article applies to the benefit derived from a stock-option granted to a member of the board of directors regardless of when that benefit is taxed, there is a need to distinguish that benefit from the capital gain that may be derived from the alienation of shares acquired upon the exercise of the option. This Article, and not Article 13, will apply to any benefit derived from the option itself until it has been exercised, sold or otherwise alienated (*e.g.* upon cancellation or acquisition by the company or issuer). Once the option is exercised or alienated, however, the benefit taxable under this Article has been realised and any subsequent gain on the acquired shares (*i.e.* the value of the shares that accrues after exercise) will be derived by the member of the board of directors in his capacity of investor-shareholder and will be covered by Article 13. Indeed, it is at the time of exercise that the option, which is what the director obtained in his capacity as such, disappears and the recipient obtains the status of shareholder (and usually invests money in order to do so)."

4. Issues related to the employer

This section briefly analyses some issues that may arise from ESOPs in relation to the application of tax treaties to the tax situation of the employer. While tax treaty issues that arise in relation to employees will naturally result in compliance issues for employers, those are merely consequential to the issues described in the preceding section and are therefore not dealt with in this section.

4.1. Deductibility of the costs of ESOPs

The deduction of costs related to running an ESOP (*e.g.* legal, financial and accounting costs related to the plan) does not raise particular difficulties, at least when these costs are incurred by the employer.[15] However, different views exist with respect to the question of whether and to what extent the benefit to the employee results in deductible expenses for the employer.

The question of allowing a deduction where shares are issued pursuant to a stock-option is, however, purely a matter of domestic tax policy. While it is true that the fact that countries' rules vary in that respect may create difficulties and possible compliance problems, this is just another example of mismatches resulting from differences between countries' rules for computing profits, a matter that is generally not dealt with in tax treaties.

4.2. Remuneration "borne by" a permanent establishment

The issue of the deduction of costs is, however, relevant for purposes of the application of paragraph 2c) of Article 15 of the OECD Model Tax Convention, *i.e.* to determine whether benefits are borne by a permanent establishment of the employer. Paragraph 7 of the Commentary on Article 15 indicates that the phrase "remuneration is not borne by a permanent establishment" must be interpreted to refer to remuneration that is not deductible in computing the profits of the permanent establishment. That paragraph should not be read as suggesting that remuneration paid in the form of stock-options cannot be viewed as borne by a permanent establishment merely because the State in which a permanent establishment is located does not allow a deduction where shares are issued pursuant to employee stock-options. In such a case, the absence of a deduction results from the nature of the payment and not from the fact that the payment is not incurred in relation to the permanent establishment. The fact that such a State will normally allow a deduction for the costs associated with the management of the stock-option plan, where these costs are shown to relate to employment services provided to a permanent establishment situated in that State, indicates that the conditions of paragraph 2c) will be met in relation to that remuneration. In order to clarify that point, the Committee recommends that paragraph 7 of the Commentary on Article 15 be amended as follows (changes appear in ***bold italics*** for additions and ***strikethrough*** for deletions):

> "7. Under the third condition, if the employer has ***a permanent establishment*** in the State in which the employment is exercised ~~a permanent establishment~~, the exemption is given ~~only~~ on condition that the remuneration is not borne by ***that*** ~~a~~ permanent establishment ~~which he has in that State~~. The phrase "borne by" must be interpreted in the light of the underlying purpose of subparagraph *c*) of the Article, which is to ensure that the exception provided for in paragraph 2 does not apply to remuneration that ~~is deductible~~ ***could give rise to a deduction***, having regard to the principles of Article 7 ***and the nature of the remuneration***, in computing the profits of a permanent establishment situated in the State in which the employment is exercised. In this regard, it must be noted that the fact that the employer has, or has not, actually ~~deducted the~~ ***claimed a deduction for the*** remuneration in computing the profits attributable to the permanent establishment is not necessarily conclusive since the proper test is whether ***any deduction otherwise available for that remuneration would be allocated to the permanent establishment*** ~~the remunaration would be allowed as a deduction for tax purpose ;~~. ***That*** ~~that~~ test would be met, for instance, even if no amount were actually deducted as a result of the permanent establishment being

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exempt from tax in the source country or of the employer simply deciding not to claim a deduction to which he was entitled. ***The test would also be met where the remuneration is not deductible merely because of its nature*** **(e.g.** ***where the State takes the view that the issuing of shares pursuant to an employee stock-option does not give rise to a deduction) rather than because it should not be allocated to the permanent establishment.***"

Notes

1. In the United States, the acronym "ESOP" refers to employee stock-ownership plans. For the purposes of this document, however, the acronym refers exclusively to employee stock-option plans.
2. For the purpose of this Chapter, plans that are called "share purchase plans" but which grant employees options or other rights to purchase employer's shares (such as so-called "section 423 plans" in the United States) are considered ESOPs as opposed to plans that simply permit the direct receipt or purchase of employer's shares by the employee.
3. For purposes of this Chapter, an "in the money option" refers to an option to acquire a share at a price that is below the market value of that share at the time the option is granted. Conversely, an "out of money option" refers to an option to acquire a share at a price that is equal to or above the market value of that share.
4. The annex presents a graphic illustration of the various events in relation to an employee stock-option and the benefit accruing at those events.
5. Another benefit that derives from the exercise of the option is the dividends that the employee can subsequently receive as a shareholder.
6. A similar issue will arise with respect to an American option if there is a time gap between the moment when all the conditions attached to the option have been met (so that the right to exercise it at a later date can no longer be forfeited) and the beginning of the period during which it can be exercised.
7. This list is not exhaustive since, in some countries, taxation may also occur at other events (*e.g.* when an employee ceases to be a resident).
8. It should be noted that in a number of countries, the tax treatment of the benefits from a stock-option or the gain resulting from the sale of the shares may differ depending on how long the shares have been owned after their acquisition by the employee.
9. It is recognised, however, that, in some countries, the imposition of withholding tax obligations on the direct employer may create administrative difficulties when the option is granted by a third party and is not considered to be provided by the employer.
10. The difference between these types of conflict is explained in paragraph 32.5 of the Commentary on Articles 23 A and 23 B of the OECD Model Tax Convention.
11. Under an "American" stock-option, the right to acquire a share may be exercised during a certain period (typically a number of years) while under a "European" stock-option, that right may only be exercised at a given moment (*i.e.* on a particular date).
12. For the purposes of that formula, the only days of employment that should be taken into account are those that are relevant for the stock-option plan, *e.g.* those during which services are rendered to the same employer or to other employers the employment by whom would be taken into account to satisfy a period of employment required to irrevocably acquire the option.
13. Where stock-options vest incrementally, *e.g.* 25% per year over 4 years under the condition that the employee worked with the company throughout the relevant period, the determination of the relevant period of services needs to be done separately for each vesting period.
14. As a general rule, a State will only tax an element of income on the basis of residence if the taxpayer is a resident of that State at the time when the income is considered to be derived by the taxpayer under the domestic tax law of that State.
15. The transfer pricing issues that may arise when the costs are incurred by a company that is not the employer (*e.g.* ESOP at the level of the parent company) are not discussed in this Chapter.

ANNEX 3.A1

Graphical Illustration

Year	01	02	03	04
Time:	↓	↓	↓	↓
Event:	**Grant of option**	**End vesting period**	**Exercice of option** (acquisition of share)	**Sale of share**
Price:	Price for option		Strike price of share	
			Market price of share acquired	Market price of share sold
Value:	Value of option at grant	Value of option at end vesting period	Value of option at exercise	
			Value of share acquired	Value of share sold

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ANNEX 3.A2

Changes to the OECD Model Tax Convention

The following are the changes to the Commentary to the Model Tax Convention resulting from this Chapter (changes to the existing text of the Commentary appear in ***bold italics*** for additions and ***strikethrough*** for deletions):

Commentary on Article 13

Add the following paragraph 32 to the Commentary on Article 13:

"***32. There is need to distinguish the capital gain that may be derived from the alienation of shares acquired upon the exercise of a stock-option granted to an employee or member of a board of directors from the benefit derived from the stock-option that is covered by Articles 15 or 16. The principles on which that distinction is based are discussed in paragraphs 12.2 to 12.5 of the Commentary on Article 15 and paragraph 3.1 of the Commentary on Article 16.***"

Commentary on Article 15

Replace paragraph 2.1 of the Commentary on Article 15 by the following:

"2.1. Member countries have generally understood the term "salaries, wages and other similar remuneration" to include benefits in kind received in respect of an employment (*e.g.* ***stock-options***, the use of a residence or automobile, health or life insurance coverage and club memberships)."

Add the following paragraph 2.2 to the Commentary on Article 15:

"2.2. The condition provided by the Article for taxation by the State of source is that the salaries, wages or other similar remuneration be derived from the exercise of employment in that State. This applies regardless of when that income may be paid to, credited to or otherwise definitively acquired by the employee."

Replace paragraph 7 of the Commentary on Article 15 by the following:

"7. Under the third condition, if the employer has ***a permanent establishment*** in the State in which the employment is exercised ~~a permanent establishment~~, the exemption is given ~~only~~ on condition that the remuneration is not borne by ***that*** ~~a~~ permanent establishment ~~which he has in that State~~. The phrase "borne by" must be interpreted in the light of the underlying purpose of subparagraph *c*) of the Article, which is to ensure that the exception provided for in paragraph 2 does not apply to remuneration that ~~is deductible~~ ***could give rise to a deduction***, having regard to the principles of Article 7 ***and the nature of the remuneration***, in computing the profits of a permanent establishment situated in the State in which the employment is exercised. In this regard, it must be noted that the fact that the employer has, or has not, actually ~~deducted the~~ ***claimed a deduction for the*** remuneration in computing the profits attributable to the permanent establishment is not necessarily conclusive since the proper test is whether ***any deduction otherwise available for that remuneration would be allocated to the permanent establishment*** ~~the remuneration would be allowed as a deduction for tax purpose~~ ;. ***That*** ~~that~~ test would be met, for instance, even if no amount were actually deducted as a result of the permanent establishment being exempt from tax in the source country or of the employer simply deciding not to claim a deduction to which he was entitled. ***The test would also be met where the remuneration is not deductible merely because of its nature (e.g. where the State takes the view that the issuing of shares pursuant to an employee stock-option does not give rise to a deduction) rather than because it should not be allocated to the permanent establishment.***"

Add the following heading and paragraphs 12 to 12.15 to the Commentary on Article 15:

"***The treatment of employee stock-options***

12. The different country rules for taxing employee stock-options create particular problems which are discussed below. While many of these problems arise with respect to other forms of employee remuneration, particularly those that are based on the value of shares of the employer or a related company, they are particularly acute in the case of stock-options. This is largely due to the fact that stock-options are often taxed at a time (e.g. when the option is exercised or the shares sold) that is different from the time when the employment services that are remunerated through these options are rendered.

12.1. As noted in paragraph 2.2, the Article allows the State of source to tax the part of the stock-option benefit that constitutes remuneration derived from employment exercised in that State even if the tax is levied at a later time when the employee is no longer employed in that State.

12.2. While the Article applies to the employment benefit derived from a stock-option granted to an employee regardless of when that benefit is taxed, there is a need to distinguish that employment benefit from the capital gain that may be derived from the alienation of shares acquired upon the exercise of the option. This Article, and not Article 13, will apply to any benefit derived from the option itself until it has been exercised, sold or otherwise alienated (e.g. upon cancellation or acquisition by the employer or issuer). Once the option is exercised or alienated, however, the employment benefit has been realised and any subsequent gain on the acquired shares (i.e. the value of the shares that accrues after exercise) will be derived by the employee in his capacity of investor-shareholder and will be covered by Article 13. Indeed, it is at the time of exercise that the option, which is what the employee obtained from his employment, disappears and the recipient obtains the status of shareholder (and usually invests money in order to do so). Where, however, the option that has been exercised entitles the employee to acquire shares that will not irrevocably vest until the end of a period of required employment, it will be appropriate to apply this Article to the increase in value, if any, until the end of the required period of employment that is subsequent to the exercise of the option.

12.3. The fact that the Article does not apply to a benefit derived after the exercise or alienation of the option does not imply in any way that taxation of the employment income under domestic law must occur at the time of that exercise or alienation. As already noted, the Article does not impose any restriction as to when the relevant income

may be taxed by the State of source. Thus, the State of source could tax the relevant income at the time the option is granted, at the time the option is exercised (or alienated), at the time the share is sold or at any other time. The State of source, however, may only tax the benefits attributable to the option itself and not what is attributable to the subsequent holding of shares acquired upon the exercise of that option (except in the circumstances described in the last sentence of the preceding paragraph).

12.4. Since paragraph 1 must be interpreted to apply to any benefit derived from the option until it has been exercised, sold or otherwise alienated, it does not matter how such benefit, or any part thereof, is characterised for domestic tax purposes. As a result, whilst the Article will be interpreted to allow the State of source to tax the benefits accruing up to the time when the option has been exercised, sold or otherwise alienated, it will be left to that State to decide how to tax such benefits, e.g. *as either employment income or capital gain. If the State of source decides, for example, to impose a capital gains tax on the option when the employee ceases to be a resident of that country, that tax will be allowed under the Article. The same will be true in the State of residence. For example, while that State will have sole taxation right on the increase of value of the share obtained after exercise since this will be considered to fall under Article 13 of the Convention, it may well decide to tax such increase as employment income rather than as a capital gain under its domestic law.*

12.5. The benefits resulting from a stock-option granted to an employee will not, as a general rule, fall under either Article 21, which does not apply to income covered by other Articles, or Article 18, which only applies to pension and other similar remuneration, even if the option is exercised after termination of the employment or retirement.

*12.6. Paragraph 1 allows the State of source to tax salaries, wages and other similar remuneration derived from employment exercised in that State. The determination of whether and to what extent an employee stock-option is derived from employment exercised in a particular State must be done in each case on the basis of all the relevant facts and circumstances, including the contractual conditions associated with that option (*e.g. *the conditions under which the option granted may be exercised or disposed of). The following general principles should be followed for that purpose.*

12.7. The first principle is that, as a general rule, an employee stock-option should not be considered to relate to any services rendered after the period of employment that is required as a condition for the employee to acquire the right to exercise that option. Thus, where a stock-option is granted to an employee on the condition that he provides employment services to the same employer (or an associated enterprise) for a period of three years, the employment benefit derived from that option should generally not be attributed to services performed after that three-year period.

12.8. In applying the above principle, however, it is important to distinguish between a period of employment that is required to obtain the right to exercise an employee stock-option and a period of time that is merely a delay before such option may be exercised (a blocking period). Thus, for example, an option that is granted to an employee on the condition that he remains employed by the same employer (or an associated enterprise) during a period of three years can be considered to be derived from the services performed during these three years while an option that is granted, without any condition of subsequent employment, to an employee on a given date but which, under its terms and conditions, can only be exercised after a delay of three years, should not *be considered to relate to the employment performed during these years as the benefit of such an option would accrue to its recipient even if he were to leave his employment immediately after receiving it and waited the required three years before exercising it.*

12.9. It is also important to distinguish between a situation where a period of employment is required as a condition for the acquisition of the right to exercise an option, i.e. the vesting of the option, and a situation where an option that has already vested may be forfeited if it is not exercised before employment is terminated (or within a short period after). In the latter situation, the benefit of the option should not be considered to relate to services rendered after vesting since the employee has already obtained the benefit and could in fact realise it at any time. A condition under which the vested option may be forfeited if employment is terminated is not a condition for the acquisition of the benefit but, rather, one under which the benefit already acquired may subsequently be lost. The following examples illustrate this distinction:

- *Example 1: On 1 January of year 1, a stock-option is granted to an employee. The acquisition of the option is conditional on the employee continuing to be employed by the same employer until 1 January of year 3. The option, once this condition is met, will be exercisable from 1 January of year 3 until 1 January of year 10 (a so-called "American" option*). It is further provided, however, that any option not previously exercised will be lost upon cessation of employment. In that example, the right to exercise that option has been acquired on 1 January of year 3 (i.e. the date of vesting) since no further period of employment is then required for the employee to obtain the right to exercise the option.*

- *Example 2: On 1 January of year 1, a stock-option is granted to an employee. The option is exercisable on 1 January of year 5 (a so-called "European" option). The option has been granted subject to the condition that it can only be exercised on 1 January of year 5 if employment is not terminated before that date. In that example, the right to exercise that option is not acquired until 1 January of year 5, which is the date of exercise, since employment until that date is required to acquire the right to exercise the option (i.e. for the option to vest).*

12.10. There are cases where that first principle might not apply. One such case could be where the stock-option is granted without any condition to an employee at the time he either takes up an employment, is transferred to a new country or is given significant new responsibilities and, in each case, the option clearly relates to the new functions to be performed by the employee during a specific future period. In that case, it may be appropriate to consider that the option relates to these new functions even if the right to exercise the option is acquired before these are performed. There are also cases where an option vested technically but where that option entitles the employee to acquire shares which will not vest until the end of a period of required employment. In such cases, it may be appropriate to consider that the benefit of the option relates to the services rendered in the whole period between the grant of the option and the vesting of the shares.

12.11. The second principle is that an employee stock-option should only be considered to relate to services rendered before the time when it is granted to the extent that such grant

*Under an "American" stock-option, the right to acquire a share may be exercised during a certain period (typically a number of years) while under a "European" stock-option, that right may only be exercised at a given moment (*i.e.* on a particular date).

is intended to reward the provision of such services by the recipient for a specific period. This would be the case, for example, where the remuneration is demonstrably based on the employee's past performance during a certain period or is based on the employer's past financial results and is conditional on the employee having been employed by the employer or an associated enterprise during a certain period to which these financial results relate. Also, in some cases, there may be objective evidence demonstrating that during a period of past employment, there was a well-founded expectation among participants to an employee stock-option plan that part of their remuneration for that period would be provided through the plan by having stock-options granted at a later date. This evidence might include, for example, the consistent practice of an employer that has granted similar levels of stock-options over a number of years, as long as there was no indication that this practice might be discontinued. Depending on other factors, such evidence may be highly relevant for purposes of determining if and to what extent the stock-option relates to such a period of past employment.

12.12.Where a period of employment is required to obtain the right to exercise an employee's stock-option but such requirement is not applied in certain circumstances, e.g. where the employment is terminated by the employer or where the employee reaches retirement age, the stock-option benefit should be considered to relate only to the period of services actually performed when these circumstances have in fact occurred.

12.13. Finally, there may be situations in which some factors may suggest that an employee stock-option is rewarding past services but other factors seem to indicate that it relates to future services. In cases of doubt, it should be recognised that employee stock-options are generally provided as an incentive to future performance or as a way to retain valuable employees. Thus, employee stock-options are primarily related to future services. However, all relevant facts and circumstances will need to be taken into account before such a determination can be made and there may be cases where it can be shown that a stock-option is related to combined specific periods of previous and future services (e.g. options are granted on the basis of the employee having achieved specific performance targets for the previous year, but they become exercisable only if the employee remains employed for another three years).

12.14. Where, based on the preceding principles, a stock-option is considered to be derived from employment exercised in more than one State, it will be necessary to determine which part of the stock-option benefit is derived from employment exercised in each State for purposes of the application of the Article and of Articles 23A and 23B. In such a case, the employment benefit attributable to the stock-option should be considered to be derived from a particular country in proportion of the number of days during which employment has been exercised in that country to the total number of days during which the employment services from which the stock-option is derived has been exercised. For that purpose, the only days of employment that should be taken into account are those that are relevant for the stock-option plan, e.g. those during which services are rendered to the same employer or to other employers the employment by whom would be taken into account to satisfy a period of employment required to irrevocably acquire the option.

12.15. It is possible for member countries to depart from the case-by-case application of the above principles (in paragraphs 12.7 to 12.14) by agreeing to a specific approach in a bilateral context. For example, two countries that tax predominantly at exercise of

an option may agree, as a general principle, to attribute the income from an option that relates primarily to future services to the services performed by an employee in the two States between date of grant and date of exercise. Thus, in the case of options that do not become exercisable until the employee has performed services for the employer for a specific period of time, two States could agree to an approach that attributes the income from the option to each State based on the number of days worked in each State by the employee for the employer in the period between date of grant and date of exercise. Another example would be for two countries that have similar rules for the tax treatment of employee stock-options to adopt provisions that would give to one of the Contracting States exclusive taxation rights on the employment benefit even if a minor part of the employment services to which the option relates have been rendered in the other State. Of course, member countries should be careful in adopting such approaches because they may result in double taxation or double non-taxation if part of the employment is exercised in a third State that does not apply a similar approach."

Commentary on Article 16

Replace paragraph 1.1 of the Commentary on Article 16 by the following:

"1.1. Member countries have generally understood the term "fees and other similar payments" to include benefits in kind received by a person in that person's capacity as a member of the board of directors of a company (*e.g.* ***stock-options***, the use of a residence or automobile, health or life insurance coverage and club memberships)."

Add the following paragraph 3.1 to the Commentary on Article 16:

"3.1. Many of the issues discussed under paragraphs 12 to 12.15 of the Commentary on Article 15 in relation to stock-options granted to employees will also arise in the case of stock-options granted to members of the board of directors of companies. To the extent that stock-options are granted to a resident of a Contracting State in that person's capacity as a member of the board of directors of a company which is a resident of the other State, that other State will have the right to tax the part of the stock-option benefit that constitutes director's fees or a similar payment (see paragraph 1.1. above) even if the tax is levied at a later time when the person is no longer a member of that board. While the Article applies to the benefit derived from a stock-option granted to a member of the board of directors regardless of when that benefit is taxed, there is a need to distinguish that benefit from the capital gain that may be derived from the alienation of shares acquired upon the exercise of the option. This Article, and not Article 13, will apply to any benefit derived from the option itself until it has been exercised, sold or otherwise alienated (e.g. upon cancellation or acquisition by the company or issuer). Once the option is exercised or alienated, however, the benefit taxable under this Article has been realised and any subsequent gain on the acquired shares (i.e. the value of the shares that accrues after exercise) will be derived by the member of the board of directors in his capacity of investor-shareholder and will be covered by Article 13. Indeed, it is at the time of exercise that the option, which is what the director obtained in his capacity as such, disappears and the recipient obtains the status of shareholder (and usually invests money in order to do so)."

Commentary on Articles 23A and 23B

Add the following paragraphs 4.1 to 4.3 to the Commentary on Articles 23 A and 23 B:

"4.1. Article 4, however, only deals with cases of concurrent full liability to tax. The conflict in case a) may therefore not be solved if the same item of income is subject to

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the full liability to tax of two countries but at different times. The following example illustrates that problem. Assume that a resident of State R1 derives a taxable benefit from an employee stock-option that is granted to that person. State R1 taxes that benefit when the option is granted. The person subsequently becomes a resident of State R2, which taxes the benefit at the time of its subsequent exercise. In that case, the person is taxed by each State at a time when he is a resident of that State and Article 4 does not deal with the issue as there is no concurrent residence in the two States.

4.2. The conflict in that situation will be reduced to that of case b) and solved accordingly to the extent that the employment services to which the option relates have been rendered in one of the Contracting States so as to be taxable by that State under Article 15 because it is the State where the relevant employment is exercised. Indeed, in such a case, the State in which the services have been rendered will be the State of source for purposes of elimination of double taxation by the other State. It does not matter that the first State does not levy tax at the same time (see paragraph 32.8). It also does not matter that the other State considers that it levies tax as a State of residence as opposed to a State of source (see the last sentence of paragraph 8).

4.3. Where, however, the relevant employment services have not been rendered in either State, the conflict will not be one of source-residence double taxation. The mutual agreement procedure could be used to deal with such a case. One possible basis to solve the case would be for the competent authorities of the two States to agree that each State should provide relief as regards the residence-based tax that was levied by the other State on the part of the benefit that relates to services rendered during the period while the employee was a resident of that other State. Thus, in the above example, if the relevant services were rendered in a third State before the person became a resident of State R2, it would be logical for the competent authority of State R2 to agree to provide relief (either through the credit or exemption method) for the State R1 tax that has been levied on the part of the employment benefit that relates to services rendered in the third State since, at the time when these services were rendered, the taxpayer was a resident of State R1 and not of State R2 for purposes of the convention between these two States.”

Add the following paragraph 32.8 and the preceding heading to the Commentary on Articles 23 A and 23 B:

“F.Timing Mismatch

32.8. The provisions of the Convention that allow the State of source to tax particular items of income or capital do not provide any restriction as to when such tax is to be levied (see, for instance, paragraph 2.2 of the Commentary on Article 15). Since both Articles 23 A and 23 B require that relief be granted where an item of income or capital may be taxed by the State of source in accordance with the provisions of the Convention, it follows that such relief must be provided regardless of w.hen the tax is levied by the State of source. The State of residence must therefore provide relief of double taxation through the credit or exemption method with respect to such item of income or capital even though the State of source taxes it in an earlier or later year. Some States, however, do not follow the wording of Article 23A or 23B in their bilateral conventions and link the relief of double taxation that they give under tax conventions to what is provided under their domestic laws. These countries, however, would be expected to seek other ways (the mutual agreement procedure, for example) to relieve the double taxation which might otherwise arise in cases where the State of source levies tax in a different taxation year.”

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Chapter 4

Impact on Transfer Pricing

1. Introduction – Scope of the study

This study analyses a number of transfer pricing issues related to stock options. It has been prepared by the OECD Secretariat and benefited from considerable input and detailed discussions from the Delegates to the Working Party No. 6 on the Taxation of Multinational Enterprises of the Committee on Fiscal Affairs. When developing this Study, the OECD Secretariat also received formal and informal input from different sources in the business community. The study is published in the Tax Policy Studies series under the responsibility of the Secretary General and does not necessarily represent the views of the OECD member countries.

1.1. Introduction

There is a need to examine the impact of employee stock option plans on the commercial and financial relations which exist between members of multinational enterprises ("MNE" groups) because of the important role they have in the remuneration policies of MNE groups. In MNE groups, stock options (as well as other forms of share-based remuneration) are often issued, not by the company employing the beneficiaries but by the listed parent company, to the employees of the group's subsidiaries. This may raise a number of transfer pricing issues, including whether under the arm's-length principle there should be a charge for the provision of those options, and if so, how it should be quantified.

In addition, domestic tax rules with regard to the assessability and deductibility of amounts associated with stock options provided to employees of the listed parent company and to employees of the group's subsidiaries differ across jurisdictions.[1] The issue to be addressed is how domestic tax rules interact with tax treaties in respect of charges received from associated enterprises with regard to the execution of stock option schemes (including in respect of relieving double taxation under paragraph 2 of Article 9 or under the Mutual Agreement Procedure in Article 25) (see and D.4 below).

Another difficulty stems from the lack of uniform accounting treatment of stock option plans. Accounting rules differ from jurisdiction to jurisdiction, and it is not always possible to identify stock options in company accounts as salaries or even as expenses. This lack of uniformity in the accounting treatment of such plans mainly has consequences for ensuring comparability between the controlled and uncontrolled transactions and for the application of transfer pricing methods (see paragraphs 2.28, 2.39-2.40 and 3.40 of the 1995 TP Guidelines) and is liable to introduce certain distortions into transfer pricing:

- between transactions undertaken by enterprises that operate stock option plans, depending on whether they are booked as expenses or not;
- and, more generally, between enterprises in comparable lines of business, depending on whether or not their employee remuneration policy includes the granting of stock options.

1.2. Scope of the study

1.2.1. Associated enterprises

The scope of this study is confined to issues arising under Article 9 (Associated Enterprises) and Article 25 (Mutual Agreement Procedure) of the Model Tax Convention ("MTC") and does not address issues arising in relation to Article 7 (Business Profits) of the MTC.

1.2.2. Share-based payments to parties other than employees

Entities may issue shares or stock options to pay employees or other parties, *e.g.* suppliers of professional services. Transactions with parties other than employees include the acquisition of goods or services in exchange for the issue of shares, options, or other equity instruments. Such transactions may in certain cases involve associated enterprises located in different tax jurisdictions and accordingly may pose transfer pricing issues. For instance, it may be the case that services or goods are acquired by an entity of an MNE group in exchange for shares or stock options in the capital of the parent company situated in a different tax jurisdiction. Transactions with parties other than employees however are not in the scope of this study, although it is recognised that they may in certain instances pose similar transfer pricing questions as employee stock option plans.

1.2.3. Variety of share-based remuneration mechanisms

There is a wide variety of share-based remuneration provided to employees. The analysis contained in this study is confined to transfer pricing questions posed by stock option plans.

Other forms of share-based remuneration can be classified under two broad categories: those which involve actual stock transactions (*e.g.* Employee Stock Purchase Plans and Employee Stock Ownership Plans) and those which do not involve actual stock transactions (*e.g.* Phantom Stocks and Stock Appreciation Rights). Although they may in certain cases pose transfer pricing issues similar to those that arise in relation to stock option plans, they are not addressed here.

1.2.4. Employee stock option plans

a) General characteristics of employee stock option plans

Employee stock option plans are a mechanism to allow employees to acquire shares at favourable conditions, generally subject to certain conditions and restrictions, *e.g.* the employee must be employed by a member of the MNE group for a certain period of time; there is a minimum period between the moment the option is granted and the moment it is exercised, and/or between the exercise of the option and the sale of the shares that have been subscribed to or acquired; granting and/or vesting of the options under some plans is subject to specified performance and motivation-based criteria being satisfied. The underlying shares may be listed or not. They may be shares in the employer or shares in another company of the MNE group (usually the parent company).

Stock option plans can be classified under two broad categories: "dilutive" stock option plans whereby options are met by allowing employees to subscribe for previously unissued shares in a company (*e.g.* to a capital increase) on favourable terms, and "non dilutive" stock option plans whereby options are met by providing for the possibility of employees' acquiring existing shares on similarly favourable terms.

Some stock option plans permit the employee holding the option to elect to receive cash equal to the spread between the strike price and the share price as of the date of exercise, rather than receiving shares in exchange for payment of the strike price. As a practical matter, a stock option plan with such a cash-settlement feature, when the employee elects to receive cash rather than shares, may be difficult to distinguish from a share-based remuneration arrangement involving Phantom Stocks or Stock Appreciation Rights.

From an individual taxation perspective, employees benefiting from the plan may or may not benefit from favourable regimes. From a corporation tax perspective, in some cases, a tax deduction may be allowed to either or both the employer of the employee and to the provider of the employee options (usually the parent company), while in other cases no deduction is allowed for corporation tax under domestic rules.

Two or more broad types of stock option plans may exist in some MNE groups (*e.g.* one for "executive employees", another for "general employees", and/or a separate plan for CEOs and other senior management within the MNE group). There may not be a single group-wide plan having common features irrespective of the jurisdiction in which an employee is located, but rather a series of plans within the MNE group with each individual plan tailored to the specific needs of an associated enterprise, or to the regulatory, tax and other legislative requirements of members of the MNE group operating in a particular country.

Common forms of structuring (*e.g.* the use of trusts or Special Purpose Companies to acquire and hold shares until provided to employees) and financing arrangements (*e.g.* where debt is used to purchase existing shares) can be adopted by MNE groups in relation to their share-based remuneration schemes, including stock option plans.

Finally, stock option plans (as well as some other forms of share-based remuneration described in sub-section 1.2.3b) below) might in certain cases have a role as a possible defence to a hostile take-over or as part of a management buy-out.

From the standpoint of Article 9 of the MTC, the only plans concerned are those operated by MNE groups and their possible impact on the commercial and financial relations between associated enterprises and the possibilities for relieving double taxation under paragraph 2 of Article 9 and the Mutual Agreement Procedure in Article 25 of the MTC. Hereafter we shall consider both non dilutive stock option plans that allow employees to purchase existing shares and dilutive stock option plans that enable them to subscribe to new issues, irrespective of whether they are accompanied by favourable domestic tax provisions or not.

b) Equity ownership *vs.* Remuneration

The analysis in this study starts with the premise that the granting of stock options is an element of remuneration just like performance-related bonuses or benefits in kind, even when stock options are issued by an entity that is distinct from the employer.[2] In fact, in many MNE groups the shares subscribed to or purchased by employees under stock option plans are sold as soon as authorised by the plan and applicable regulations, *i.e.* employees do not seek to exercise their prerogative as shareholders, apart from benefiting from an increase in value between the strike price paid and the value of the share at the date the option is exercised. Moreover, a stock option is a financial instrument which is valuable and which can be exercised in order to realise such value. Although, upon exercise, the holders of such options may acquire and decide to retain a share in the capital of an enterprise, this investment decision made by each employee is a distinct step from that of the remuneration; it occurs at a different point in time and is of no relevance to the transfer pricing issue under consideration. There might be exceptional cases where this premise would not work, but such cases are not discussed in this study.

c) Stock options in listed and unlisted companies

The analysis in this study is limited to plans in listed companies. Employee stock option plans in unlisted companies have specific economic characteristics due to the closed character of such companies, which usually limits the liquidity of the shares in the plans, increases the risks and rights inherent in being a shareholder, and raises specific questions as to the valuation of both the options and the shares in question.

In particular, in the absence of an open market, stock option plans in unlisted companies are most often dilutive plans whereby employees are granted the right to subscribe to new shares under favourable conditions. Various mechanisms can be implemented to enable employees to re-sell the shares so subscribed, *e.g.* the issuing company itself may agree to re-purchase its own shares from the employees and subsequently cancel them. The strike price as well as the price at which the shares in question are re-purchased by the company may in some cases be set by reference to other transactions not connected with the stock option plan, where such transactions exist and are appropriate benchmarks (*e.g.* an increase in share capital or a share transfer involving shareholders other than employees). In addition or alternatively, a pre-determined formula may be provided in the plan, based for instance on a given Price Earning Ratio and / or on the company's net equity at a future date.

In comparison to those offered by listed companies, employee stock options in unlisted companies raise additional practical difficulties in relation to valuation and to the application of transfer pricing methodologies:

- Determining the fair market value is more difficult than for listed companies due to the absence of an open market for the underlying stock (see Section 2.1.2a));
- Using a recognised option pricing model such as the Black-Scholes formula or binomial method (Cox-Ross-Rubinstein method) is more difficult than for listed companies because these models rely on factors such as Current Stock Price and Stock Volatility which are less directly observable in unlisted than in listed companies (see Section 2.1.2a));
- Applying a cost-based approach to stock option plans in unlisted companies raises the same issues as for plans in listed companies, especially those issues related to the definition of costs for dilutive plans (see Sub-sections 2.1.2b) and 2.2.2); plus the additional issue of relying on less objective estimates of stock price;
- Finally, risk minimisation strategies for stock in unlisted companies are generally very limited compared to possibilities that might be available for stock in listed companies (see Section 2.1.1b)).

These specific issues are not further discussed in this study.

1.2.5. Situations discussed in this study

Three main situations are addressed in this study:

1. Situation where an enterprise grants stock options to employees of an associated enterprise that is resident in another tax jurisdiction. This will include an examination of whether under the arm's length principle there should be a charge for the provision of those options, and if so, how it should be quantified. Two examples are developed to illustrate this situation: a non dilutive stock option plan whereby employees are offered

the option to buy existing shares (Section 2.1); and a dilutive stock option plan whereby employees are offered an option to subscribe to a share capital increase (Section D).

2. Situation where the transfer pricing method to be applied is sensitive to employee remuneration and where the employee remuneration of either the tested party or the comparables is materially impacted by stock options.
3. Situation concerning the impact of employee stock option plans in the context of Cost Contribution Arrangements (CCAs). There is a range of practices among OECD member countries with regard to the recognition and administration of CCAs and this poses questions that go beyond the mere impact of employee stock options. A brief discussion of these issues is included in this document under Situation III.

The distinction between Situation in I on the one hand and Situations II and III on the other hand is an essential one:

- In Situation I, the issue of stock options by one enterprise to the employees of another enterprise (including any management of such a plan) is the subject of the potential intra-group transaction.
- In Situations II and III, in contrast, the transactions analysed are not directly the provision of a stock options plan (and management of the plan), but the possible impact of stock options on the evaluation of other intra-group transactions. The stock option plan is ancillary and analysed only insofar as it impacts materially on the pricing of intra-group transactions in which the beneficiaries of the stock options are directly or indirectly involved.

2. Situation I: An enterprise grants stock options to employees of an associated enterprise that is resident in another tax jurisdiction.

The discussion of Situation I is organised below around two examples:

- A non dilutive stock option plan, whereby employees of one enterprise are offered options to acquire existing shares of another (associated) enterprise (Section 2.1).
- A dilutive stock option plan, whereby employees of one enterprise are offered options to subscribe new shares of another (associated) enterprise (Section 2.2).

These examples are not intended to provide a "one size fits all" solution for all cases, but rather to illustrate how the analysis should be conducted in a typical situation encountered with respect to a stock option plan implemented by an MNE group.

2.1. TOPCO Example: The "Non-Dilutive stock option plan"

THE GROUP is an MNE group whose parent company, TOPCO, is resident in State A and listed on the stock exchange in that State. TOPCO has a large number of subsidiaries in various jurisdictions, SUBCO1, SUBCO2, SUBCO3, etc. It is assumed that all these subsidiaries are ultimately 100% owned by TOPCO. The implementation of an employee stock option plan for employees of THE GROUP is decided by the management of THE GROUP. Accordingly, the subsidiaries include the benefit of a stock option plan in the remuneration package of their employees. The options offered to employees will be options over TOPCO shares, the only company in THE GROUP that is listed on a stock exchange. TOPCO commits itself to provide the necessary options and shares to employees of the subsidiaries who will be designated to benefit from stock options, within certain limits. The plan is approved by TOPCO's decision-making bodies (the general meeting of shareholders and board of directors). It is then notified to the board of directors and managers of the subsidiaries (SUBCOs), with a mention of the quota of options available to be shared between the employees of each of them. Within this quota, employee stock options are then attributed to employees of the subsidiaries using performance and motivation-based criteria drawn up jointly by THE GROUP's human resources department and the management and human resources department of the subsidiary.

There might be cases where performance- or motivation-based criteria are also set as conditions for employees to exercise options. In other cases, such criteria are used only to decide who will benefit from the attribution of options and how many options will be attributed to each beneficiary.

The plan provides that employees will be granted options in year N which can be exercised in year N+3 if they are still employed in THE GROUP but not necessarily in the same legal entity as when they were granted the options. The options entitle the employees to purchase TOPCO shares at a strike price that is equal to the shares' market value on the day the options were granted, irrespective of the shares market value at exercise.

The example assumes that TOPCO agrees to provide the applicable number of its shares to employees who subsequently exercise their employee stock options, and must therefore be able to access a sufficient number of its shares in order to meet this obligation as and when required (*e.g.* by purchasing shares on-market). TOPCO may then enter into a variety of hedging strategies to cover the risks linked to any increase or decrease in share value. If necessary, TOPCO also arranges for the liquidity of the shares pursuant to their acquisition by the employees (for instance by re-purchasing the shares from the employee).[3]

Administrative services for the management of the plan might be provided by TOPCO itself or by a third party (*e.g.* a bank).

In practice, it is found that in some cases the issuing company may invoice the subsidiaries that employ the beneficiaries of the stock options, while in other cases, the issuing company does not charge the subsidiaries for the provision of stock options to their employees. In addition, in those cases where there is a charge, it is found in practice that measurement and settlement dates greatly vary among MNE groups.

In this example, it is assumed that the stock options offered to SUBCO's employees are not in the nature of a capital contribution by TOPCO to SUBCO. Further, it is assumed that there is a charge by TOPCO to SUBCO for the provision of the employee stock options plan. We note that under alternative facts, no charge to SUBCO would necessarily be warranted. For example, if TOPCO simply exercises the discretion of a parent to capitalise its affiliate in the form of its choosing, the stock options could be considered a capital contribution.

Finally, in the TOPCO example, it is also assumed that upon exercise, employees purchase TOPCO shares directly from TOPCO. There may be other scenarios, for instance whereby TOPCO transfers the shares to SUBCO or to a special purpose vehicle prior to the shares being transferred to the employees. In such instances, the general principles described below would still be applicable, subject to their being adjusted to account for the potential effects on the assumption of risk and hedging possibilities of the temporary transfer of shares to SUBCO or to a special purpose vehicle.

This example raises a number of transfer pricing issues, including whether under the arm's-length principle there should be a charge for the provision of those options, and if so, how it should be quantified. The following sections examine:

- How should the arm's length principle apply in respect of the commercial and financial relations existing between TOPCO and SUBCO? (See Section 2.1.1.)
- What transfer pricing methods might be used to determine an arm's length compensation in respect of the commercial and financial relations existing between TOPCO and SUBCO? (See Section 2.1.2.)
- What happens if an employee changes employer within THE GROUP or leaves THE GROUP after the employee options have been granted and prior to when they can be exercised? (See Section 2.1.3.)
- How do domestic tax rules interact with tax treaties (including in respect of relieving double taxation under paragraph 2 of Article 9 or under the Mutual Agreement Procedure in Article 25)? (See Section 2.1.4.)

2.1.1. Applying the arm's length principle: controlled transaction(s) under review, identification of the beneficiary(ies) of the transaction and comparability analysis

The arm's length principle of Article 9 of the OECD Model Tax Convention provides that:

> "[When] conditions are made or imposed between … two [associated] enterprises in their commercial or financial relations which differ from those which would be made between independent enterprises, then any profits which would, but for those conditions, have accrued to one of the enterprises, but, by reason of those conditions, have not so accrued, may be included in the profits of that enterprise and taxed accordingly."

In order for Article 9 to apply, there must first be "commercial or financial relations" between two associated enterprises. Second, the conditions made or imposed in such commercial or financial relations must not be at arm's length.

In the particular example, the commercial or financial relations that exist between TOPCO and SUBCO are those resulting from the establishment by TOPCO of a stock option plan that is made available under certain conditions and limits participation to SUBCO's employees and approval by SUBCO. The transaction that is examined under Article 9 is the transaction taking place between TOPCO and SUBCO. The transactions taking place between TOPCO and/or SUBCO on the one hand and the employees benefiting from the stock option plan on the other hand are not those analysed under Article 9.

In general, TOPCO would not grant options (whether over its own shares or over any other instrument) or provide any other type of remuneration to employees of an unrelated party without getting anything in return. Therefore, where TOPCO provides options and shares to employees of SUBCO and does not charge SUBCO for this, or charges less than an arm's-length amount, the second condition for Article 9 to apply would potentially be met as long as SUBCO gets benefits from the option plans.[4]

Symmetrically, the conditions for Article 9 to apply would also be met in cases where TOPCO charges SUBCO for an amount exceeding the arm's length compensation (the determination of which is discussed under Section 2.1.2).

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a) Controlled transaction under review and identification of the beneficiary(ies) of the transaction(s)

Based on an analysis of facts and circumstances, the different types of benefits which might arise from the stock option plan for SUBCO and potentially for other members of the MNE group should be determined.

The analysis may reflect that the entity benefiting from TOPCO issuing options is the subsidiary that employs the individuals who benefit from the options. There may also be other cases where the stock option plan is found to benefit to some extent other members of the MNE group (including TOPCO) which are not necessarily the legal employers of the beneficiaries of the stock options. This may be the case in particular for stock options granted to employees with geographical or divisional responsibilities that exceed the limit of the subsidiary that employs them. These matters are discussed in more detail in the discussion on comparability analysis in Section 2.1.1b) below.

When employees perform activities that benefit other members of the MNE group besides their employer, they can do so:

- either in the frame of a service activity rendered by their employer to the benefit of those other members of the MNE group;
- or in the frame of a "co-employment situation" whereby in substance they would in fact have more than one employer – even though their employment contracts might be with one entity only.

In the first instance, where the employer acts as a service provider to other members of THE GROUP with respect to the activities performed by some employees who benefit from stock options issued by TOPCO, the proper treatment, for transfer pricing purposes, would be to recognise *i)* a transaction between TOPCO and the employer with respect to the provision of the stock option plan and *ii)* a provision of services by the employer to other members of THE GROUP. This is consistent with the premise in this study that stock options are remuneration for employment services performed by the employees benefiting from the plan. The charge by TOPCO to the employer with respect to stock options granted to these individuals would become part of the cost of rendering services to other members of THE GROUP that might be charged separately. In this case, for the purpose of determining an arm's length compensation for the provision of a stock option plan by TOPCO, it would not be relevant for TOPCO to be informed of which entity(ies) ultimately benefit from the services of the employees receiving options.[5]

A different solution might however be implemented in some cases where the employer is not acting as a service provider to other members of the MNE group with respect to the activities performed by its employees for the benefit of these other members of the MNE group, but where in substance an employee is co-employed by more than one subsidiary. In such cases a split charge by TOPCO in respect of the stock options to the various co-employers might be appropriate. For instance, irrespective of the price per option charged by TOPCO, it may be that the number of options granted to an employee or group of employees needs to be allocated among different members of THE GROUP which in substance are co-employers of the employee(s).

This is not an issue peculiar to employee stock options but applies similarly to other forms of remuneration paid to employees whose activities benefit more than one legal entity and there is no need to be prescriptive in this respect, in so far as an arm's length outcome is achieved, *i.e.* the subsidiary that legally employs a beneficiary of options who performs an activity for the benefit of other members of the MNE group should not bear more than its fair share of the remuneration package of said individual.

b) Comparability analysis

As discussed in Section 2.1(i) of the Guidelines, application of the arm's length principle is generally based on a comparison of the conditions in a controlled transaction with the conditions in transactions between independent enterprises. In order for such comparisons to be useful, the economically relevant characteristics of the situations being compared must be sufficiently comparable. To be comparable means that none of the differences (if any) between the situations being compared could materially affect the condition being examined in the methodology (*e.g.* price or margin), or that reasonably accurate adjustments can be made to eliminate the effect of such differences. All methods that apply the arm's length principle can be tied to the concept that independent enterprises consider the options available to them and, in comparing one option with another, they consider any differences between the options that would significantly affect their value and will only enter into a transaction if they see no alternative that is clearly more attractive.

Regardless of the transfer pricing methodology used, adjustments must be made to account for differences between the controlled and uncontrolled transactions that would significantly affect the price charged or return required by independent enterprises. In order to establish the degree of actual comparability and then to make appropriate adjustments to establish arm's length conditions (or a range thereof), it is necessary to compare attributes of the transactions or enterprises that would affect conditions in arm's length dealings. These attributes are the five comparability factors described in the Guidelines and discussed in this section.

Paragraph 1.39 of the Guidelines acknowledges that associated enterprises are able to make a much greater variety of contracts and arrangements than can unrelated enterprises and may and frequently do enter into arrangements with associated enterprises that are not or are very rarely encountered between independent enterprises. In such cases, practical difficulties arise in applying the arm's length principle. This is because where independent enterprises seldom undertake transactions of the type entered into by associated enterprises, there is little or no direct evidence of what conditions would have been established by independent enterprises (see paragraph 1.10 of the Guidelines). Different approaches for applying the arm's length principle may therefore be needed.

The provision of a stock option plan by an enterprise to employees of another enterprise would, as such, be an unlikely transaction between independent enterprises. There are a number of reasons for this. If SUBCO was an independent company, it could consider offering options over its own shares. The feasibility and interest of a stock option plan issued by SUBCO as a stand-alone company would depend on a number of factors, one of the most important ones being whether or not the options would be issued over shares that are tradable and with a value that is observable. In the situation where SUBCO is a member of an MNE group owned by TOPCO, offering options over TOPCO's shares is convenient because TOPCO shares are tradable and their value is directly observable. In addition, a stock option plan issued by TOPCO provides beneficiaries with an incentive to make decisions that are in the interest of THE GROUP, rather than in the interest of SUBCO alone, and therefore favours synergies within the MNE group.

This lack of independent comparable transactions is likely to restrict the choice of transfer pricing methodologies for analysing whether the commercial or financial relations between TOPCO and SUBCO arising out of the employee option plan are arm's length. Approaches that are different from those for transactions that exist between independent parties may be needed to achieve the best possible approximation of an arm's length outcome.

There are for instance other types of group incentives, *e.g.* group pension schemes, which may be created, maintained and managed centrally by one entity for the employees of all associated enterprises of a MNE group. There are also examples of third parties issuing financial instruments to employees as part of the remuneration package provided by the employer. For instance, life insurance contracts can be structured, issued, maintained and managed by unrelated insurance companies for the benefit of employees as part of the remuneration package provided by the employer. In such cases, there is a two-step legal relationship:

- the employment agreement between the employer and its employee contains a commitment by the employer to provide certain benefits to its employee as part of his/her remuneration package;
- an agreement between the employer and an insurance company that arranges for the provision of certain benefits to the employee on behalf of the employer.

Although life insurance contracts are not comparable transactions to stock option plans, they usefully illustrate the situation where the employer, employee and the other party play similar roles with employee stock option plans.

Moreover, transactions on options issued by listed companies are common between unrelated parties, and share-based payments are also becoming increasingly common, *i.e.* some companies issue shares or stock options to pay suppliers, such as suppliers of professional services. However, it is unlikely that such transactions on options could be used directly as comparable transactions in assessing the conditions between TOPCO and SUBCO without proper adjustments being made.

In analysing Situation I, the starting point of the transfer pricing analysis should be identifying the key economic characteristics of the commercial and financial relations between TOPCO and SUBCO arising out of the employee option plan, having regard to the behaviour of independent enterprises (see paragraphs 1.15-1.16, of the Guidelines) and to the five comparability factors that are described in the 1995 TP Guidelines (see paragraphs 1.15-1.35 of the Guidelines).

i) Characteristics of the stock option plan

Employee stock options present a number of specific characteristics that are tailored to each particular plan. First, there are financial characteristics such as underlying stock value, stock volatility, option price and strike price paid by employees, etc. In addition, employee stock options are generally not transferable by employees and become worthless in the case of the employee leaving the enterprise before a specified date. Vesting conditions differ from one plan to another. Employee stock options also usually have much longer maturity than ordinary traded options. All these characteristics should be adequately taken into account in determining the arm's length compensation of the transaction.

Besides characteristics of the options provided, the analysis should also take into account the features of the plan on a wider basis. For example, *inter alia* it would be relevant to consider characteristics of the particular employee option plan from the perspective of which entities within THE GROUP might obtain direct or indirect benefits from a particular subsidiary participating in TOPCO's employee option plan. A particularly important characteristic in the context of employee option plans will be the presence of any performance or motivation-based criteria which need to be met before employees have the right to exercise their options. These will be important from the perspective of properly analysing the arrangement between TOPCO and SUBCO as the presence of such criteria may provide good indicators of the different types of benefits which might arise from the employee option plan for the various members of THE GROUP and in respect of which entities such benefits might arise (see sub-section 2.1.1a)). This will also give useful indications as to what period of employment activity is remunerated through the granting of options (past activity, future performance, or a mixture of both).

In the TOPCO example, it is assumed that performance criteria are used to determine the allocation of stock options among employees but do not come into play once options are granted.

ii) Functional analysis

Paragraph 1.20 of the 1995 TP Guidelines provides that:

> "In dealings between two independent enterprises, compensation usually will reflect the functions that each enterprise performs (taking into account assets used and risks assumed). Therefore, in determining whether controlled and uncontrolled transactions or entities are comparable, comparison of the functions taken on by the parties is necessary. This comparison is based on a functional analysis, which seeks to identify and to compare the economically significant activities and responsibilities undertaken or to be undertaken by the independent and associated enterprises. For this purpose, particular attention should be paid to the structure and organisation of the group. It will also be relevant to determine in what juridical capacity the taxpayer performs its functions."

Functions

In terms of functions, particular attention should be paid to the role of TOPCO's and SUBCO's management in the decision-making process to establish a stock option plan and then in the decision to attribute options to each particular employee. At one end of the spectrum there are cases in which the decision to establish the plan is made by the parent company which simply notifies to its subsidiaries the name of beneficiaries of options and number of options attributed to each of them, without the subsidiaries being involved at all in the decision-making process. This type of situation may provide an indication that the plan is intended to benefit the parent company rather than the subsidiaries. At the other end of the spectrum, there are cases where the subsidiaries are informed by their parent company of the possibility to provide options to employees within a certain quota, and are then free to decide who will be the individual beneficiaries among their employees and what number of options will be attributed to each of them. In the TOPCO example, it is assumed that while the implementation of an employee stock option plan and conditions thereof are decided by the management of THE GROUP, employee stock options are attributed to employees of the subsidiaries using performance and motivation-based criteria drawn up jointly by THE GROUP's human resources department and the management and human resources department of the subsidiary.

In addition, administrative and legal services for the management of the plan would generally be provided either by TOPCO itself, or by a third party (*e.g.* a bank). The nature and extent of such administrative and legal services can significantly differ from one plan to another and may affect the arm's length compensation of the transaction. Although compensation of legal and administrative services is not specifically discussed in this study, it would need to be appropriately taken into account when determining whether the financial and commercial relations between TOPCO and SUBCO are at arm's length. In practice, it may be the case that the compensation of administrative and legal services is charged as a separate service fee, or embedded in the compensation charged by TOPCO for the provision of the stock-options plan.

Assets

As part of the functional analysis, it may also be relevant and useful in identifying and comparing the functions performed to consider the assets that are employed or to be employed (see paragraph 1.22 of the 1995 TP Guidelines). In the TOPCO example, assets (if any) needed to establish a risk management strategy could be relevant to the analysis, to the extent that such assets determine the ability of TOPCO or SUBCO to implement an efficient risk minimisation strategy.

Risks

Any analysis of a stock options related transaction needs to examine whether the arrangement reflects an arm's length allocation of the risks associated with the possible increase or decrease of the underlying value of the share as well as of the risks associated with the estimated proportion of options that will be effectively exercised versus those that will be forfeited (*e.g.* because of employees' departure from the MNE group) or not exercised (*e.g.* because of a decrease in share value). Risk allocation has a direct effect on the pricing of the transaction; hence the importance of ensuring that the allocation of risks reflects an arm's length behaviour.

In practice, there are a myriad of potential allocations of risk to SUBCO, depending on the contractual arrangements between TOPCO and SUBCO and the extent of hedging activities:

- Risk minimisation: The stock options are fully hedged at grant date. This could be achieved, for example, by TOPCO simultaneously purchasing TOPCO shares in the market and buying the same number of put options in TOPCO shares. Alternatively, mirror call options could be purchased in the market. If TOPCO fully hedges the stock options at grant date pursuant to this contractual arrangement, SUBCO would pay the option value to TOPCO at grant date.
- Full risk to SUBCO: The stock options are not hedged at all, and SUBCO bears the risk of increases or decreases in the price of the stock. Under this scenario, TOPCO enters into a contractual agreement with SUBCO at the option grant date effectively requiring SUBCO to cover the cost of the spread between the stock price and the exercise price at exercise date.
- Partial risk to SUBCO: The stock options are partially hedged at grant date. For example, TOPCO might purchase TOPCO shares in the market without corresponding put options. Under this contractual arrangement, SUBCO would pay TOPCO the value of the partial

hedge at grant date, and bear the risk associated with the unhedged portion (in this case the risk of a decrease in the stock price).

Whether a particular allocation of risk reflects an arm's length behaviour is a factual question and should be examined on a case by case basis. Useful guidance can be found in paragraph 1.27 of the 1995 TP Guidelines:

> "An additional factor to consider in examining the economic substance of a purported risk allocation is the consequence of such an allocation in arm's length transactions. In arm's length dealings it generally makes sense for parties to be allocated a greater share of those risks over which they have relatively more control. For example, suppose that Company A contracts to produce and ship goods to Company B, and the level of production and shipment of goods are to be at the discretion of Company B. In such a case, Company A would be unlikely to agree to take on substantial inventory risk, since it exercises no control over the inventory level while Company B does. Of course, there are many risks, such as general business cycle risks, over which typically neither party has significant control and which at arm's length could therefore be allocated to one or the other party to a transaction. Analysis is required to determine to what extent each party bears such risks in practice. When addressing the issue of the extent to which a party to a transaction bears any currency exchange and/or interest rate risk, it will ordinarily be necessary to consider the extent, if any, to which the taxpayer and/or the MNE group have a business strategy which deals with the minimisation or management of such risks. Hedging arrangements, forward contracts, put and call options, etc., both "on-market" and "off-market", are now in common use. Failure on the part of a taxpayer bearing currency exchange and interest rate risk to address such exposure may arise as a result of a business strategy of the MNE group seeking to hedge its overall exposure to such risks or seeking to hedge only some portion of the group's exposure. This latter practice, if not accounted for appropriately, could lead to significant profits or losses being made which are capable of being sourced in the most advantageous place to the MNE group."

Furthermore, as indicated in paragraph 1.28 of the 1995 TP Guidelines,

> "In arm's length dealings, the contractual terms of a transaction generally define explicitly or implicitly how the responsibilities, risks and benefits are to be divided between the parties. As such, an analysis of contractual terms should be a part of the functional analysis discussed above. The terms of a transaction may also be found in correspondence/communications between the parties other than a written contract. Where no written terms exist, the contractual relationships of the parties must be deduced from their conduct and the economic principles that generally govern relationships between independent enterprises."

In the TOPCO example, the extent of the risks borne by SUBCO and accordingly the potential need for SUBCO to consider risk minimisation techniques will depend on the contractual arrangement between TOPCO and SUBCO. To the extent that such an arrangement allocates risk to SUBCO, it becomes more relevant for SUBCO to consider risk minimisation techniques.

As stated in the Guidelines, "in arm's length dealings it generally makes sense for parties to be allocated a greater share of those risks over which they have relatively more control". Although it is not the intention in this study to be prescriptive as to whether or not TOPCO and/or SUBCO would implement a risk minimisation technique, it is necessary to emphasise the importance of ensuring that for transfer pricing purposes the compensation for stock option arrangements within MNE groups should reflect an appropriate allocation of risks among TOPCO and its subsidiaries. This should be done through a proper comparability analysis of the transaction at the time the plan is established, that is, at the time the allocation of risk is determined and the risk minimisation strategy (if any) is adopted. The comparability analysis should be done in accordance with the principles enunciated in the Guidelines and mentioned in the two preceding paragraphs. It is acknowledged that the lack of comparable transactions may complicate this exercise and require that taxpayers and tax authorities determine what arm's length parties would have done in comparable circumstances.

In terms of other risks, there is also a need to consider; as for any transfer pricing issue, the wider context in which risks might arise for the participants in the employee stock option plan, in particular, the risks for SUBCO of participating in the employee stock option plan from the perspective of the impact that such participation might have on its business and profitability.[6]

iii) Contractual terms

In practice, the contractual arrangement between TOPCO and SUBCO is not necessarily a written agreement. In many cases it is given effect by exchanges of internal documents whereby TOPCO informs each subsidiary of the quota of options that could be attributed to employees and conditions thereof, while each subsidiary informs TOPCO of the identity of the employees who will benefit from the plan and of the number of options attributed to each of them. Conditions surrounding the charge by TOPCO to SUBCO (*e.g.* how the amount of the charge is determined and at what point in time) are not always documented. Where no written terms exist or where they do not provide sufficient information, the contractual relationships of the parties must be deduced from their conduct and the economic principles that generally govern relationships between independent enterprises (see 1995 TP Guidelines, paragraph 1.28).

In arm's length dealings, the key contractual terms of the transaction would presumably be determined upon establishment of the plan, *i.e.* when SUBCO's and TOPCO's reciprocal commitments are fixed, and in any case no later than grant date. Relevant contractual information at this date should include:[7]

- The purpose and scope of the arrangement for SUBCO's participation in a stock option plan established by TOPCO, a general description of the context and of the reasons for entering into such an arrangement (in particular expected benefits for SUBCO and TOPCO).
- The characteristics of the stock option plan in terms of number of options granted to the employees of the affiliate concerned, beneficiaries, strike price, vesting and other conditions.
- The employment services that are remunerated through the granting of options and in particular which period of services the granting of options related to, consistent with the criteria used for the attribution of options and for vesting conditions.
- The allocation of risks and responsibilities among the parties, and a description of risk minimisation techniques implemented if any.
- A description of the method that will be used to determine the amount charged by TOPCO to the subsidiary, including compensation of risks as appropriate.

With respect to the third bullet point, stock option plans in practice can be implemented to reward employment services for SUBCO only and/or for other members of THE GROUP. They can remunerate past performance, future performance or a combination of both. This question was analysed by Working Party No.1 in its document "Cross-border income tax issues arising from employee stock option plans" in which it is noted that:

> "In many cases it can be difficult to determine to which services the granting of stock options relates. In some cases, an option may be regarded as rewarding previous performance, in others as an incentive for future performance.
>
> The contractual arrangements would certainly be relevant in that respect. For instance, conditions under which an employee would be prevented from exercising an option unless he remained with the company for a certain period of time would suggest that the option rewards future services. Conversely, the fact that an option is granted to all employees who were employed during a certain period, that options are granted on the basis of past performance, that it is not possible for an employee to lose the benefit of options granted or that the number of options granted depends on the financial results of a previous accounting year could support the opposite view."

Given the flexibility surrounding the organisation of stock option plans, it does not seem possible or appropriate to be prescriptive as to what employment services were intended to be remunerated upon establishment of the stock option plan by TOPCO and decision for SUBCO to participate in it. On the other hand, this is key information in many respects:

- To understand SUBCO's benefit in the transaction that takes place with TOPCO.
- To determine whether SUBCO should bear the whole charge with respect to stock options granted to its employees or should transfer part of the charge to other members of THE GROUP in particular in cases described in sub-sections C.1a) above and C.3a) below.
- And also to determine how stock options should be taken into account when examining other transactions undertaken by SUBCO (see Situation II).

This is one of the reasons why it is suggested in sub-section C.1b) (iii) above that the period of employment services that the granting of options relates to is part of the contractual terms between TOPCO and SUBCO and that it should be documented upon establishment of the plan.

Paragraph 1.37 of the 1995 TP Guidelines indicates that:

> "[…] there are two particular circumstances in which it may, exceptionally, be both appropriate and legitimate for a tax administration to consider disregarding the structure adopted by a taxpayer in entering into a controlled transaction. The first circumstance arises where the economic substance of a transaction differs from its form. In such a case the tax administration may disregard the parties' characterisation of the transaction and re-characterise it in accordance with its substance. An example of this circumstance would be an investment in an associated enterprise in the form of interest-bearing debt when, at arm's length, having regard to the economic circumstances of the borrowing company, the investment would not be expected to be structured in this way. In this case it might be appropriate for a tax administration to characterise the investment in accordance with its economic substance with the result that the loan may be treated as a subscription of capital. The second circumstance arises where, while the form and substance of the transaction are the same, the arrangements made in relation to the transaction, viewed in their totality,

differ from those which would have been adopted by independent enterprises behaving in a commercially rational manner and the actual structure practically impedes the tax administration from determining an appropriate transfer price. An example of this circumstance would be a sale under a long-term contract, for a lump sum payment, of unlimited entitlement to the intellectual property rights arising as a result of future research for the term of the contract (as previously indicated in paragraph 1.10). While in this case it may be proper to respect the transaction as a transfer of commercial property, it would nevertheless be appropriate for a tax administration to conform the terms of that transfer in their entirety (and not simply by reference to pricing) to those that might reasonably have been expected had the transfer of property been the subject of a transaction involving independent enterprises. Thus, in the case described above it might be appropriate for the tax administration, for example, to adjust the conditions of the agreement in a commercially rational manner as a continuing research agreement."

In the context of the contractual arrangement between TOPCO and SUBCO, it might happen that the economic substance of the transaction differs from its form, *e.g.* where the identification in the contract of what employment services are remunerated through the granting of stock options is inconsistent with the performance criteria used to attribute options to employees. There might also be cases where contractual terms would allocate to SUBCO most or all of the risks associated with the provision of the stock options, and it would be appropriate to examine whether such an arrangement could be found in similar terms between unrelated parties or whether it differs from what would have been adopted by independent enterprises behaving in a commercially rational manner, thus entailing application of paragraph 1.37 of the 1995 TP Guidelines.

Section 2.1.2 discusses valuation issues relating to the arm's length charge from TOPCO to SUBCO under the stock option arrangement. Under certain contractual arrangements, the valuation is undertaken and the charge is incurred at the option's grant date, while under alternative contractual arrangements, no grant-date valuation or charge is required, even though the pricing method (as well as the other contractual terms of the transaction) should have been agreed upon establishment of the plan. For example, if the stock options are not hedged at grant date and SUBCO is obligated to reimburse TOPCO for the spread at exercise, no grant-date valuation or charge is imposed under the terms of the contractual arrangement. Rather, settlement of the contractual obligation is made by SUBCO at exercise date. As stated above, whether such arrangements have economic substance and reflect arm's length behaviour would need to be determined under the transfer pricing analysis.

iv) Economic circumstances

As stated in paragraph 1.30 of the 1995 TP Guidelines, "Arm's length prices may vary across different markets even for transactions involving the same property or services". In the context of employee stock options, the value of the financial instrument (option) is linked with its value in the market where the stock is listed, and should therefore not be influenced by the location of the subsidiaries.

However, when examining the stock option plan in a wider sense, a number of economic factors may mean that the arm's length compensation in respect of the arrangement between TOPCO and one of its subsidiaries may differ from that between TOPCO and another of its subsidiaries, notwithstanding that the same financial instruments (employee stock options) may be provided to the employees of both subsidiaries. In particular, this could be due to differences in the conditions of the market where the subsidiaries operate or to the fact that those conditions affect the subsidiaries differently. Among these different economic circumstances it could be relevant to consider for instance:

- The anticipated rate of exercise of their options by employees, because the value of the stock option plan provided by TOPCO would presumably be higher for a subsidiary with high anticipated exercise rate than for a subsidiary with low anticipated exercise rate.
- The employment market for the subsidiary, *e.g.* whether there is a high turnover rate and whether stock options are an important element to retain employees in this market, or whether employees in this market traditionally have a low-risk appetite and therefore favour cash bonuses over stock option plans.
- Whether the effect of the stock option plans is to bring the remuneration of employees of a given subsidiary to market standards, or well above market.
- The currency exchange rate, because for instance a stock option plan might be a less effective incentive for employees of a subsidiary whose currency is perceived as "strong" compared with the currency of the issuing company, than for employees of a subsidiary whose currency is perceived as "weak" compared with the currency of the issuing company.

v) Business strategies

With respect to business strategies, it will be relevant to consider whether business strategies have been devised by the MNE group or by a member of the group acting separately and the nature and extent of the involvement of other members of the MNE group necessary for the purpose of implementing the business strategy (see paragraph 1.31 of the 1995 TP Guidelines). Paragraph 1.35 of the 1995 TP guidelines states that:

> "An additional consideration is whether there is a plausible expectation that following the business strategy will produce a return sufficient to justify its costs within a period of time that would be acceptable in an arm's length arrangement. [...] In the end, however, the most important consideration is whether the strategy in question could plausibly be expected to prove profitable within the foreseeable future (while recognising that the strategy might fail), and that a party operating at arm's length would have been prepared to sacrifice profitability for a similar period under such economic circumstances and competitive conditions."

Relevant information may include information concerning SUBCO's strategies with respect to the granting of TOPCO's stock options to its employees, especially in cases where the plan provides for massive grant of stock options and/or where SUBCO's involvement in the decision-making process for the attribution of stock options to its own employees is found to be very limited. More generally, of particular relevance in this context will be considerations relating to any performance or motivation-based criteria associated with the employee stock option plan.

It would be particularly relevant to consider the effect that participation by SUBCO in TOPCO's employee stock option plan has on its business and on its profitability. Relevant considerations would include examining whether SUBCO's ongoing profitability (whether measured at the level of the entity or at the level of a particular product line or activity) would be so adversely affected that it was reduced below that which might reasonably be expected to be made by comparable independent enterprises.

Another area where it might be useful to understand business strategies concerns any risk minimisation technique – or absence thereof – by the party to which the risk is allocated.

2.1.2. Possible approaches for determining an arm's length compensation

The discussion below analyses three approaches to ascertain the extent to which, if any, they might assist in determining whether any charge made by TOPCO to a subsidiary in respect of employee stock options provided by TOPCO to the employees of that subsidiary is arm's length.

- an approach based on the fair value of the financial instruments provided (*i.e.* the employee stock options);
- an approach based on the costs associated with the provision of the employee stock option plan; and
- an approach based on the value of the employee stock option plan from the perspective of the associated enterprise that employs the beneficiaries of the stock options.

It is also necessary to examine the extent to which these approaches are consistent with the methods described in the 1995 TP Guidelines or need to be adapted.

a) Fair value of the employee stock options

Description of the fair value approach

The most direct way to establish whether the conditions made or imposed between associated enterprises are arm's length is to compare the prices charged in controlled transactions undertaken between those enterprises with prices charged in comparable transactions undertaken between independent enterprises (see 1995 TP Guidelines paragraph 2.5). In the context of the transaction undertaken between TOPCO and SUBCO with respect of the provision of a stock option plan, the Comparable Uncontrolled Price ("CUP") method would amount to a comparison of the price charged by TOPCO to SUBCO for the provision of the employee stock option plan with the price charged between unrelated parties for a comparable stock option plan in comparable circumstances. Such a direct comparison, however, is unlikely to be applicable in practice because employee stock option plans are unlikely to be provided between unrelated parties.

Considering this practical limitation, an attempt could be made to determine a fair value for the employee stock options by reference to the price of comparable financial instruments on the free market at the date of the grant, that is, by reference to the price of the employee stock options provided by TOPCO if such options were traded on the market in a way similar to how non employee stock options are traded. To obtain an estimate of the fair market value of the employee stock options, one may begin by considering the value of market-traded options that were issued in relation to the same stock (here, TOPCO's stock), where such options are effectively traded. Proper adjustments would however be required to take into account the differences between such options and the employee stock options. As such open markets for employee stock options may exist only in rare circumstances, and as it is doubtful that independent parties actually enter into arrangements similar to the one existing between TOPCO and SUBCO, it is acknowledged that applying this approach would, most of the time, yield only an estimate of what these fair market values would have been.

When non employee stock options over TOPCO shares are not traded on markets, this method could not be applicable and a different method for determining a fair market value for the employee stock options could be to use recognised option pricing models that take into account the volatility of the stock price, the present value of the option exercise price and the term of the option. Such models are used by independent parties on the free market and might therefore be used in the frame of the Fair Value approach.

However, these models would also need to be adjusted to take into account the specific characteristics of employee stock options and to properly address the assumptions underlying the chosen option pricing model which do not hold in the context of employee stock options. In particular, employee stock options are generally not transferable by employees of subsidiaries and are forfeited (and therefore become worthless) when the employee leaves the enterprise before a specified date. They also usually have much longer maturity than ordinary traded options and have conditions attached to vesting which must be met before the options can be exercised. Developments in recent years by way of enhancements to some of the option pricing models have allowed one or more of the above features to be taken into account; however, the particular option pricing model chosen will need to be checked to establish what features it does take into account and what assumptions may have been made in order to give that method validity in the circumstances of the particular case.

Strengths and weaknesses of the fair value approach

The main attraction of the fair value approach is that it represents an attempt to approximate an objective market valuation of the stock options provided, irrespective of TOPCO's costs and of SUBCO's benefits to the transaction.

One limitation of this approach is that it is looking at the value of each individual option, while the controlled transaction under analysis is the provision of a stock option plan (*i.e.* a given number of options totalling a certain value). For this approach to be applied properly, it would be necessary to examine not only the price charged by TOPCO for each individual option, but also the proportion of options allocated to SUBCO. It may be that in some instances the price charged for each individual option under a fair value approach is correct, but that the total amount charged to SUBCO for the provision of the stock option plan is well in excess of what enterprises similar to SUBCO would grant to their employees in similar circumstances or does not adequately take into account what entity(ies) benefit from the provision of the stock option plan (see sub-sections 2.1.1a), and 2.1.1b). In such circumstances, in accordance with paragraphs 1.36 to 1.41 of the Guidelines, the parameters of the transaction may be adjusted either to ensure that the stock option plan better reflects commercial reality or to appropriately assign stock options to employees of those entities that benefit from the plan. The proportion of options allocated to SUBCO and accordingly the amount charged to it for the provision of the plan will also be affected by the assumptions made with respect to the exercise rate of options by employees, estimated at grant date.

Although it starts with a review of what could be a potential Comparable Uncontrolled Price according to the 1995 TP Guidelines, this approach potentially represents a departure from the CUP method. In effect, while the CUP method relies on strong comparability requirements, the Fair Value approach described above does not rely on a comparison with a comparable uncontrolled transaction; in fact, in cases where TOPCO's non employee options are not tradable, it does not even rely on a comparison with comparable financial instruments. The reliability of the approach therefore depends on its ability to measure and account for such differences.

When applying this approach, whether by reference to the price of TOPCO's non employee stock options where they are tradable, or by using an option pricing model, there is an additional concern as to whether adjustments that are reliable enough can be made to account for specific features inherent in employees' stock options. As stated in paragraph 1.15 of the 1995 TP Guidelines, "To be comparable means that none of the differences (if any) between the situations being compared could materially affect the condition being examined in the methodology (*e.g.* price or margin), or that reasonably accurate adjustments can be made to eliminate the effect of any such differences."

Another perceived advantage of the fair value approach is that it presents similarities with the fair market value approach developed for financial accounting purposes (*e.g.* under IASB or FASB standards) although the latter is not based on OECD comparability standards. However, applying the fair value approach in order to approximate an arm's length compensation for the transaction that takes place between TOPCO and SUBCO would not necessarily amount to applying a fair market value approach for financial accounting purposes. This is because, although there are obvious similarities between both approaches, the objectives of financial reporting are not the same as those when applying Article 9 of the MTC, and in particular financial reporting does not look at the commercial or financial relation between TOPCO and SUBCO but rather looks at the consolidated position.

Despite this limitation, it is expected that the experience gained of using the fair value approach for financial accounting purposes (in particular on the adaptations needed to reliably apply option pricing models to employee stock options) might provide useful indications for applying the fair value approach in the context of the arm's length principle. In particular, MNE groups might be required in the near future to produce additional information relevant to these methods for non tax reasons and to use these methods to determine an expense charge to be taken into account in the preparation of the group's consolidated financial accounts.

In conclusion, the fair value approach might be useful, subject to its not being limited to a review just of the *price* of the financial instruments (options) but also that proper consideration be given to the *number* of options attributed to SUBCO. In addition, as it is the case for any transfer pricing method, a review of the contractual terms agreed between TOPCO and SUBCO, the functional analysis, economic circumstances and business strategies (see c) below) would be needed. However, there may be difficulties in respect of the reliability of the required comparability adjustments, on which there is currently limited experience.

b) Cost based approach

Description of the cost based approach

Under a cost based approach, the value of the employee stock option plan provided by TOPCO would be determined on the basis of the total amount of costs of providing these options. In theory, the cost based approach can look at the costs from different perspectives, *i.e.* either:

- the costs incurred by TOPCO, the supplier of the stock option plan;
- or the costs that would have been incurred by SUBCO to obtain TOPCO shares or options, assuming TOPCO is a third party.

Looking at the costs incurred by TOPCO is akin to applying a cost plus method as described in the 1995 TP Guidelines. Under the contractual arrangements assumed in the TOPCO example, the pricing method as well as the other contractual terms would in principle be defined upon establishment of the plan and in any case no later than grant date (see section 2.1.1b) above on contractual terms). Valuation and charge can take place at various points in time between grant date and exercise date. In addition, TOPCO may incur costs to acquire the needed shares (or options) at any moment between grant and exercise, particularly where TOPCO operates a permanent share purchase programme. As a consequence, the cost based approach could involve either actual costs as illustrated in Scenarios 1 and 2 below (grant date valuation) and Scenario 3 below (exercise date settlement), or estimated costs as illustrated in Scenario 4 below (grant date valuation but TOPCO does not acquire the financial instruments at grant date).

Looking at the costs that would have been incurred by SUBCO to obtain TOPCO shares or options might be seen as a departure from the cost plus method described in the 1995 TP Guidelines, as the cost plus method begins with the costs incurred by the supplier of property or services (see paragraph 2.32 of the Guidelines). In this case, the costs that would have been incurred by SUBCO to obtain TOPCO shares or options provide a proxy for costs that would be incurred by TOPCO. In practice, this would mean taking into account the price of the financial instruments (TOPCO shares or options) on the market at the date agreed for the valuation of the charge irrespective of how and when TOPCO actually acquires the financial instruments (see variation to Scenario 2 below).

The four scenarios below illustrate typical applications of the cost-based approach that may be found in practice but this is not an exhaustive list. The objective of these scenarios is to identify the costs that would serve as a basis for the charge of the stock option plan by TOPCO under a cost-based approach (notwithstanding proper consideration being given to other features of the plan, *e.g.* the number of options allocated to SUBCO).

Scenario 1: Valuation and charge at grant date; TOPCO acquires, at grant date, options mirroring its commitments towards SUBCO's employees. In such a case the cost basis could be defined at grant date on the basis of costs incurred by TOPCO, as:

- the acquisition price of options at grant date by TOPCO;[8]
- plus the costs linked with the provision of services attached to the plan, if any (*e.g.* administrative and legal services, risk management function where appropriate).

Scenario 2: Valuation and charge at grant date; TOPCO acquires, at grant date, shares in itself to meet its commitments towards SUBCO's employees. In such a case, the cost basis could be defined at grant date on the basis of costs incurred by TOPCO as:

- the acquisition price of its own shares by TOPCO on the market at grant date;
- minus the present discounted value of the contractual strike price to be received by TOPCO from SUBCO's employees;
- plus the costs linked with the provision of services attached to the plan, if any (*e.g.* administrative and legal services, risk management function where appropriate).

A variation to Scenario 2 would be where TOPCO and SUBCO agree that the charge should be based on TOPCO's shares market price at grant date, irrespective of whether or not TOPCO actually acquires all the shares at grant date.

Scenario 3: Contractual settlement at exercise date: under this scenario although the pricing method would be agreed upon establishment of the plan, the quantification of the price would be based on actual (future) costs and charged to SUBCO at exercise date, once these costs are incurred by TOPCO acquiring shares in itself. The cost basis could be determined at exercise date on the basis of actual costs incurred by TOPCO as:

- the acquisition price of shares by TOPCO (adjusted to take into account funding costs as well as any dividend receivable by TOPCO);
- minus the contractual strike price to be received by TOPCO from SUBCO's employees (*i.e.* the "spread" if acquisition of shares by TOPCO takes place at exercise date);
- plus the costs linked with the provision of services attached to the plan, if any (*e.g.* administrative and legal services, risk management function where appropriate).

Under Scenarios 1 and 2, the charge to SUBCO would be fixed at grant date and would not be revised due to subsequent events (such as an increase or decrease in TOPCO share price, or an actual exercise rate by employees lower or higher than expected). However, there would remain an element of risk for TOPCO since its final actual costs might still be affected by the actual exercise rate of their options by SUBCO's employees. On the other hand, under Scenario 3, the charge to SUBCO would not be fixed until exercise date and SUBCO would bear the risks linked both to the potential increase in TOPCO share price (between the grant date and the date when TOPCO acquires the shares) and to the difference between anticipated and actual exercise rate by employees.

Scenario 4: Although the valuation is undertaken and the charge is incurred at the option's grant date, TOPCO decides to acquire the needed shares at a future date (no later than exercise date). Compared to Scenarios 1, 2 and 3, Scenario 4 introduces a practical difficulty because actual costs are not yet incurred by TOPCO and are not definitively known at the point in time when valuation and charge to SUBCO take place. The cost basis could be determined based on an estimate at grant date of costs to be incurred by TOPCO. In order to be able to make this estimate at grant date, TOPCO and SUBCO would need to agree on the key factors that will affect said estimate, and in particular on the date or period over which TOPCO is expected to acquire the needed shares. In practice, it is often the case that TOPCO operates a permanent share purchase programme to cover worldwide employee stock option plans, and it is therefore not always possible to precisely attribute particular shares acquired by TOPCO to a particular beneficiary or even affiliate. It may therefore happen that TOPCO and SUBCO agree, upon establishment of the plan, on a conventional date that will be used to estimate the costs. Such a conventional date might be the grant date, the exercise date or any other date in between.

Scenario 4 introduces a disconnection between what TOPCO actually does (and the costs it actually incurs) to procure the financial instruments (whether it acquires shares or options, and at what date) and what TOPCO or SUBCO could actually have done (and what it would have cost). In this respect it might be seen as a departure from the cost plus approach as described in the 1995 TP Guidelines. This disconnection might be particularly useful in cases where TOPCO operates a global share purchase programme where it is not possible to track which shares are attributed to which employees.

There are other possible scenarios and, as already noted, the above list is not intended to be exhaustive. Again, considering the range of contractual situations that may exist in practice and their effect on the valuation undertaken at grant date, whether a particular contractual arrangement reflects an arm's length behaviour should be decided in view of the facts and circumstances of each case. This is particularly relevant for Scenario 3, in which SUBCO bears the risks associated with the stock options, and for Scenario 4, which involves particularly difficult valuation issues.

Whatever the scenario, the costs taken into account in a cost based approach would not necessarily correspond to accounting costs reported by TOPCO. As already discussed, accounting costs/expenses to TOPCO (depending on accounting treatment) could be nil and with an approach strictly based on the accounting costs/expenses, the charge to the subsidiaries would then also be nil. This seems initially to be an unsatisfactory outcome since it fails to take account of the fact that an arm's length receiver of a service would pay for that service if it was valuable to it, whatever the accounting cost to the provider.

Effect of the risk allocation and risk minimisation strategy

Taking risk allocation and risk minimisation techniques into account in a cost-based approach is important as this will directly affect the price of the transaction. This can be illustrated as follows:

- There may be cases where TOPCO and SUBCO agree upon establishment of the plan that SUBCO will be charged on a cost-based approach with respect to employee stock options provided by TOPCO to SUBCO's employees, subject to an appropriate risk minimisation technique to be implemented by TOPCO and reflected in the amount charged to SUBCO.
- There may be other cases where TOPCO decides not to implement a risk minimisation technique. This can be a legitimate business decision at the level of TOPCO; however it would be necessary to examine whether SUBCO would have agreed to bear the risk itself, had it been dealing with an unrelated party.
- Finally, TOPCO's hedging position (in relation to the market) does not necessarily match SUBCO's hedging position (in relation to TOPCO). There might be cases where TOPCO does not hedge in relation to the market (with the result that TOPCO's cost is the spread at exercise date) while the contractual arrangement between TOPCO and SUBCO provides for a grant date valuation (see Scenario 4 and variation to Scenario 2 above). There might be other cases where TOPCO could implement a risk minimisation strategy at THE GROUP consolidated level, but under the contractual arrangement SUBCO would be charged on a cost-based approach without taking into account the effects of such risk minimisation techniques (*e.g.* SUBCO would pay the spread on exercise). Whether such asymmetric positions reflect arm's length arrangements is a factual question that needs to be examined on a case by case basis.

In fact, the risk analysis that is made by TOPCO on a consolidated basis and the decision whether or not to implement a risk minimisation technique does not necessarily give the answer at SUBCO's level and there is a need to consider these issues as if SUBCO were an independent entity dealing at arm's length with TOPCO.

One question that arises with the cost-based approach is whether a mark-up should be earned by TOPCO and, if so, on what cost basis. In providing an employee stock option plan, TOPCO provides financial instruments as well as potentially some administrative, legal and risk management services. With respect to the provision of services, it would seem appropriate for TOPCO to earn a reasonable mark-up (provided that these services are rendered in the interest of SUBCO and are subject to proper application of the guidance in Chapter VII of the 1995 TP Guidelines). Regarding the selection of an appropriate arm's length mark-up for services associated with the provision of the plan such as administrative and legal services, it may be possible to identify arm's length comparables by looking for instance at service providers involved in similar transactions or offering similar financial services.

On the other hand, adding a mark-up to the costs associated with the acquisition of TOPCO shares seems questionable. If a mark-up were to be added to the acquisition cost of TOPCO shares, it would be very difficult to find relevant comparables. One possible view is to consider that it may be appropriate for TOPCO to pass on these costs to its affiliates without a mark-up and to apply a mark-up only to the costs incurred by TOPCO in performing associated services, if any (see by analogy paragraph 7.36 of the 1995 TP Guidelines).

Strengths and weaknesses of the cost based approach

When based on the actual or estimated costs of TOPCO, the cost-based approach presents important similarities with the cost plus method described in the 1995 TP Guidelines, mainly because it "begins with the costs incurred by the supplier of property (or services) in a controlled transaction for property transferred or services provided to a related purchaser" (see paragraph 2.32 of the 1995 TP Guidelines). On the other hand, there might be cases in practice where the cost based approach would be based on share price, *i.e.* on what it would have cost SUBCO to acquire TOPCO shares or options, rather than on TOPCO's costs. This latter approach would represent a departure from the cost plus method as described in the 1995 TP Guidelines.

The cost-based approach clearly has the advantage of starting from the familiar basis of objective costs or observable market prices rather than on a pricing model, and therefore would generally require less adjustments to account for the specific features of employee stock options.

As is the case with the fair value approach, in order for the cost-based approach to be applied properly, it would be necessary to examine not only the price charged by TOPCO for each individual option, but also whether the number of options allocated to SUBCO is at arm's length.

The analysis should take into account all the comparability factors that affect the transaction, including the benefits received by TOPCO and SUBCO from this employee stock option plan. Otherwise, there may be circumstances where, while the cost based approach may provide a satisfactory outcome from TOPCO's perspective, it would not take into account the perspective of SUBCO in terms of functional analysis, economic circumstances and business strategies. In these circumstances the provider's costs would have no or an insufficient connection to the value of the stock option plan provided.

Finally, under a cost plus method, The cost plus mark up of the supplier in the controlled transaction should ideally be established by reference to the cost plus mark up that the same supplier earns in comparable uncontrolled transactions. In addition, the cost plus mark up that would have been earned in comparable transactions by an independent enterprise may serve as a guide (paragraph 2.33 of the 1995 TP Guidelines). In the context of employee stock option plans, it could be argued that the lack of transactions between independent parties that could be compared with the transaction implemented between TOPCO and SUBCO would be a limitation when trying to apply the cost-based approach consistently with the cost plus method described in the 1995 TP Guidelines. If a mark-up is to be added to the costs incurred for the provision of services, it should be possible to find acceptable comparables that provide similar services, because administrative and legal services involved in the management of the plan are often outsourced to third parties (banks). However, if a mark-up were to be added to the acquisition cost of TOPCO shares, it would be very difficult to find relevant comparables and one possible view is to consider that it may be appropriate for TOPCO to pass on these costs to its affiliates without a mark-up and to apply a mark-up only to the costs incurred by TOPCO in performing associated services, if any.

c) Third approach: Value of the provision of the stock option plan from the perspective of SUBCO

There is a general principle in the 1995 Transfer Pricing Guidelines that proper regard should be given to the value of the transaction for the recipient and how much an independent enterprise would be prepared to pay for a comparable transaction in comparable circumstances (see paragraphs 1.15 and 1.16 on comparability in general, paragraph 6.14 in the context of pricing intangible property and 7.29 on services). Determination of an arm's length compensation, which minimises the risks of double taxation (and therefore the number of potential MAP cases) and of less than single taxation, requires a two-sided analysis that considers the commercial and financial arrangements between TOPCO and SUBCO from both the perspective of SUBCO and the perspective of TOPCO. While the fair value and cost-based approaches start from the perspective of the provider TOPCO, this sub-section discusses how the perspective of SUBCO might be taken into account in determining what an independent party would be willing to pay for the provision of the stock option plan to its employees.

Description of the approach

In order to estimate the value of the employee stock option plan from the perspective of SUBCO, an approach based on an estimate of the savings on wages made by SUBCO as a counterpart to the granting of options to its employees could be considered. Although these savings might be valued in some cases, for instance when the employer offers employees the choice between being granted options and receiving a salary bonus, this situation is probably rare in practice. In principle, the savings should correspond to a valuation of the option from the perspective of employees; this could differ from the market value of the options, since other criteria should be accounted for such as aversion to risk, risks diversification strategy, perception by the employee that s/he is still employed by the enterprise at exercise date, conditions of individual taxation, etc. As a consequence, this approach should not be applied because the employee's perspective of the value of the options is regarded as irrelevant to evaluate the arm's length compensation of a transaction (s)he is not party to. In addition a valuation from the perspective of the employee would be very difficult to achieve and would introduce an undesired level of uncertainty.

Another means to estimate the value of the employee stock option plan from the perspective of SUBCO would be to use one of the transfer pricing methods described in the 1995 TP Guidelines that examines a profit indicator at the level of SUBCO, for instance, depending on what method is appropriate in view of SUBCO's activities, the cost plus method, the transactional net margin method or a profit split method.

When applying one of these methods, the transaction between TOPCO and SUBCO with respect to the provision of a stock option plan would not be examined in isolation, but rather considered as one of the components of other transactions undertaken by SUBCO in which the employees benefiting from the stock option plans are involved. When examining whether the conditions of such other transactions are at arm's length, an appropriate transfer pricing method would be applied consistently with the 1995 TP Guidelines and take into account the full remuneration received by SUBCO's employees, including the amount charged by TOPCO with respect to the provision of stock options to these employees.

This can be illustrated by assuming SUBCO operates as a distributor and is charged by TOPCO for the provision of stock options to its sale force. When applying a transactional net margin method to SUBCO's distribution activity (assuming this method is found to be the most appropriate in SUBCO's case), the charge made by TOPCO to SUBCO with respect to stock options would be treated as remuneration for SUBCO's sales force. If SUBCO's net margin so determined is found to be lower than arm's length, this might be an indication, for instance:

- of a non arm's length transfer price from related party suppliers to SUBCO for the products distributed;
- or of non arm's length conditions in the provision of stock options by TOPCO to SUBCO's sales force. For instance, it could be the case that the attribution of stock options has been decided as part of a group wide policy without properly taking into account the characteristics of SUBCO's market;
- or of the fact that part of the stock options attributed to SUBCO's employees in fact does not remunerate an activity performed for the benefit of SUBCO. For instance there may be cases where besides their distribution activities for the benefit of SUBCO, employees also perform group oriented activities and contribute to develop global synergies which do not directly benefit SUBCO and for which SUBCO is not adequately remunerated. A similar concern may arise in some cases with respect to stock options granted to senior executives performing group-wide activities, depending on what services are remunerated through the granting of options;
- or a combination of two or more of the above factors.

Strengths and weaknesses of the approach

Compared with the fair value and cost based approaches, this third approach seems more capable of accounting for all the factors affecting the transaction between TOPCO and SUBCO, beyond the characteristics of the financial instruments (stock options). In particular, this approach carefully examines whether it is appropriate from SUBCO's perspective to participate in the stock option plan established by TOPCO at the price charged by TOPCO. By doing so, it is consistent with paragraph 1.16 of the 1995 TP Guidelines that states that "All methods that apply the arm's length principle can be tied to the concept that independent enterprises consider the options available to them and in comparing one option to another they consider any differences between the options that would significantly affect their value".

The main difficulty with this approach as illustrated above is that it potentially loses transactional focus and, if applied alone, it will often not be capable of determining by itself the price for the provision of a stock option plan by TOPCO. This is because under this approach the provision of stock options is not regarded as a transaction in isolation, but rather as one of the components affecting either the gross or the net margin earned by SUBCO on activities in which its employees participate. As a consequence, where the gross or net margin earned by SUBCO on said activities is found to be lower than an arm's length margin, an excessive (higher than arm's length) charge by TOPCO with respect to the provision of stock options will be one of the possible causes to investigate, but not necessarily the only one. There may also be certain circumstances in which it is valid under the 1995 TP guidelines to evaluate a combination of transactions together to determine an arm's length compensation for the provision of stock options (see paragraphs 1.42 to 1.44 of the 1995 TP Guidelines).

As already indicated, the different types of benefits which might arise from the stock option plan for SUBCO and potentially for other members of the MNE group should be determined based on an analysis of facts and circumstances. This is true for all three approaches described in this paper, and should be dealt with when examining the five comparability factors. On the one hand, it could be considered that the third approach puts greater emphasis on these aspects and therefore might be usefully applied in conjunction with a fair value or cost-based approach, as a "sanity check" or even in its own right in circumstances when it is appropriate to evaluate a combination of transactions together under the 1995 TP Guidelines. On the other hand, it also could be considered that this approach is not at all appropriate in the context of an evaluation of the TOPCO – SUBCO transaction, in particular because it would permit tax administrations the discretion to determine routinely that a given employee stock option programme is over-generous to employees, not well targeted, etc. In addition, the problems posed as possible reasons for using an approach based on the value to SUBCO, for example that options are only partially for work carried out by employees for SUBCO, should be capable of being identified at an earlier stage of analysis (see sub-sections 1.2.1a), and 1.2.1b)) and reflected in the attribution of fair value or cost-based figures, partially to SUBCO and partially elsewhere.

d) Preliminary conclusion on approaches

When applying the arm's length principle to the transaction between TOPCO and SUBCO with respect to the provision of a stock option plan, the lack of comparable uncontrolled transactions inevitably makes it difficult to directly use the transfer pricing methods described in the 1995 TP Guidelines. The three approaches described in this study represent an attempt to apply the transfer pricing methods described in the 1995 TP Guidelines to the extent possible in the context of stock options and adapt these methods where needed.

The fair value approach is attractive in that it is an attempt to approximate the objective market value of the financial instruments, and in that sense presents similarities with the comparable uncontrolled price method. However, a possible concern is that this approach might present departure from the 1995 TP Guidelines because it does not rely on a comparison with an actual independent transaction and because its reliability would be questionable due to the significance of adjustments needed to make this approach workable. This in fact is a wider concern than for employee stock options and it may be necessary to develop guidance for pricing financial instruments generally, updating the 1995 TP Guidelines.

The cost-based approach presents great similarities with the cost plus method of the 1995 TP Guidelines when applied on the basis of costs incurred by TOPCO. A major strength in applying this approach is that it would potentially rely on costs or prices that are observable (either costs incurred by TOPCO or market prices). A question remains as to whether an arm's length mark-up based on a comparison of mark-up rates earned by independent companies in comparable transactions should be added and if so on what cost basis (full costs including the costs associated with the acquisition of shares or only costs associated with services).

In order to properly apply either the fair value or the cost-based approach, it would be necessary to examine not only the price charged by TOPCO for each individual option, but also the number of options allocated to SUBCO. When applying either of these approaches, care should be taken to take into account all the comparability factors that affect the transaction, including the benefits received by TOPCO and SUBCO from this employee stock option plan.

The third approach, based on a review of SUBCO's perspective, may provide an answer to this concern. However, because the third approach would not regard the provision of stock options as a transaction in isolation but rather as one of the components of other transactions implemented by SUBCO, it will often be difficult to apply this approach in isolation in order to determine the arm's length compensation to be charged to SUBCO for the provision of the stock option plan by TOPCO. Further, there are difficult and unresolved issues around this approach. On the one hand, it could be considered that this approach might be usefully applied in conjunction with the fair value approach or cost-based approach as a "sanity check", or even in its own right in circumstances when it is appropriate to evaluate a combination of transactions together under the 1995 TP Guidelines. On the other hand, it could also be considered that this approach is not valid in the context of the TOPCO – SUBCO transaction, given that it is based on an evaluation of a profit level indicator of SUBCO and gives tax administrations too much discretion to routinely disregard the stock option plan as structured by the taxpayer.

2.1.3. The particular case of an employee who changes employer within THE GROUP or leaves THE GROUP

a) The case of an employee who changes employer within THE GROUP

A particular difficulty arises when an employee is granted options by TOPCO at a time when s/he is employed by a subsidiary SUBCO1[9], and then becomes an employee of another subsidiary SUBCO2, and is employed by that other subsidiary when s/he exercises the options. The question arises as to how such an event should be reflected in the determination of the arm's length compensation in respect of the commercial and financial relations existing between in the first place TOPCO and SUBCO1 and in the second place between TOPCO and SUBCO2 arising out of the employee option plan established by TOPCO.

This question amounts to determining which entity was the beneficiary of the employment services remunerated by the options. As discussed in sub-section 2.1.1b) on contractual terms, stock option plans can be implemented to remunerate past performance, future performance or a combination of both. It was suggested that the identification of which employment services (past, present or future) are remunerated by the granting of stock options should be documented by the taxpayer upon establishment of the plan. Tax administrations, when reviewing the arrangement between TOPCO and SUBCO with respect to the provision of a stock option plan, would follow the taxpayer's documentation, unless one of the circumstances described under paragraph 1.37 of the 1995 TP Guidelines applies, *e.g.* where the economic substance of a transaction differs from its form, for example where the documented intent appears to be inconsistent with the criteria used for the attribution of options and vesting conditions. Working Party No. 1 has identified a number of factors that are relevant to determine which employment services are remunerated through the granting of stock options. These factors can provide a useful analytical framework for tax administrations when examining whether the documentation provided, including the contractual terms, is consistent with economic reality, or when examining cases where the taxpayer has not provided any documentation. Whether or not the event described in the above paragraph would require the charge made by TOPCO to be partially allocated to SUBCO2 and how this allocation should be made would logically follow from this analysis, and in particular from whether options were granted to remunerate future performance that in fact will benefit SUBCO2 once the employee changes employer.

In cases where it appears that stock options were granted for future performance and that accordingly the charge should be allocated between SUBCO1 and SUBCO2, one further question is whether the initial transaction between TOPCO and SUBCO1 should be amended and completed with a new transaction entered into between TOPCO and SUBCO2, or whether the initial transaction between TOPCO and SUBCO1 should remain unaffected, with a new transaction being established between SUBCO1 and SUBCO2 upon the transfer of the employee. Because the terms and conditions of the transaction between TOPCO and SUBCO1 must be fixed upon establishment of the plan (no later than grant), the view is that in general the proper adjustments should be made between SUBCO1 and SUBCO2, and not between TOPCO and SUBCO1 or SUBCO2.

b) The case of an employee who leaves THE GROUP

If an employee benefiting from stock options leaves THE GROUP at a date after vesting but before exercise, no specific issue should arise for the subsidiary that employed him/her because it can be assumed that all the employment services remunerated through the granting of stock options would have been completed at vesting date.

On the other hand, if an employee leaves THE GROUP before vesting and accordingly loses the right to exercise his/her options, SUBCO would potentially bear the risk of being charged by TOPCO at grant for employment services, part of which will in fact not be completed by the employee.[10] The question arises as to whether an adjustment to the charge made by TOPCO to SUBCO would be necessary to deal with this issue. However, the probability that some employees would leave THE GROUP before having completed the employment services remunerated through the options is one of the factors that should be considered when the terms and conditions of the transaction between TOPCO and SUBCO are determined upon establishment of the plan. In most cases, it is likely that this risk will be dealt with through the determination of an expected rate of exercise by SUBCO's employees that will affect the amount charged by TOPCO.

2.1.4. Interactions with domestic law

The arm's length principle does not address the question of whether a tax deduction should be allowed to an enterprise providing employee stock options to employees of its subsidiaries, or to a subsidiary whose employees have received employee stock options from its listed parent company. This is purely a matter of domestic tax policy, not one that is dealt with in tax treaties.

Domestic tax rules with regard to the assessability and deductibility at the company level of amounts associated with stock options received by employees differ across jurisdictions. A number of questions have been raised, for example:

- how domestic tax laws might apply to TOPCO and SUBCO in respect of charges which relate to an employee stock option plan;
- whether and to what extent any double taxation that might arise in the above circumstances might be relieved by making a corresponding adjustment under Art.9(2) of the MTC or under the Mutual Agreement Procedure in Art. 25 of the MTC.

Issues around Mutual Agreement Procedures of Article 25 of the MTC are being reviewed by the OECD in the framework of a specific project on improving dispute resolution (information is available on the OECD Internet site *www.oecd.org/taxation*).

The arm's length principle contained in Article 9 provides that associated enterprises should determine their profits as if they were unrelated parties. Profits so determined are then "taxed accordingly". Applied to SUBCO's perspective, Article 9 does not set a rule that any arm's length charge among associated enterprises should be tax deductible if such charge is by nature non tax deductible in the country receiving it. This question arises by analogy with cases where the domestic tax law in SUBCO's country of residence would not allow a tax deduction in respect of certain amounts associated with an employee stock option plan if such a plan was issued by SUBCO itself to its own employees.

There are many examples of expenses that are not tax deductible according to applicable domestic rules for reasons that have nothing to do with the arm's length principle. Such expenses do not become tax deductible merely because they would be charged by an associated enterprise. For instance, contributions to political parties may not be tax deductible by a taxpayer resident in one country according to the applicable domestic law. In cases where such contributions are paid by an associated enterprise resident in another tax jurisdiction to the benefit of a taxpayer and subsequently charged to this taxpayer, this would not make the charge tax deductible in the taxpayer's jurisdiction. This is the case for many other items that greatly vary depending on countries' legislation, *e.g.* some types of overhead expenses (luxury cars, etc).

On the other hand, a case where no compensation is paid by SUBCO to TOPCO (or compensation lower than arm's length) might lead the tax administration in the jurisdiction in which TOPCO is resident to make a primary transfer pricing adjustment based on the arm's length compensation in respect of the commercial or financial dealings between TOPCO and SUBCO associated with the employee option plan.

For illustration purposes, let us assume that TOPCO's profits are adjusted according to Article 9-1 of the MTC to account for an arm's length compensation for options granted to employees of SUBCO where no such compensation was initially provided. Under Article 9-2, a corresponding adjustment of SUBCO's taxable basis would only be needed if:

- the amount that was added back to TOPCO's profits corresponds to an amount that was included in SUBCO's profits and charged tax in the country of SUBCO;
- such an adjustment to the amount of the tax charged is "appropriate" and, therefore, reflects the arm's length principle; and
- an arm's length charge for stock options if paid by SUBCO to TOPCO would be deductible under the tax rules of the State of residence of SUBCO.

Thus, whether the resident State of SUBCO would make a corresponding downward adjustment to SUBCO's tax liability depends on the domestic tax treatment of stock options in that State.

Let us now consider the opposite case, *i.e.* where an adjustment is made to SUBCO's profits according to Article 9-1 of the MTC where compensation initially provided by SUBCO is excessive (higher than arm's length). Under Article 9-2, a corresponding adjustment of TOPCO's taxable basis would only be needed if:

- the amount that is added back to SUBCO's profits corresponds to an amount that was included in TOPCO's profits and charged tax in the country of TOPCO; and

- such an adjustment to the amount of the tax charged is "appropriate" and, therefore, reflects the arm's length principle.

Thus, whether the resident State of TOPCO would make a corresponding downward adjustment to TOPCO's tax liability depends on the domestic tax treatment of stock options in that State.

In such examples, there would be no "taxation not in accordance with the MTC" and the taxpayer could not access the Mutual Agreement Procedure under Art. 25-1 or 25-2 of the MTC. However, under Article 25-3 of the MTC, it would be open to competent authorities where a similar provision exists under the bilateral treaty to "consult together for the elimination of double taxation in cases not provided for in the Convention". In this context, it may be important to agree on the quantum of stock options to be allocated between TOPCO and SUBCO even where SUBCO's jurisdiction does not permit a tax deduction in relation to stock options.

2.2. Variant to TOPCO example: Dilutive plans

In this Section we will examine the case of TOPCO issuing a dilutive stock option plan to employees of its subsidiaries. The situation is the same as the one described under Section C, except that the options granted to employees entitle them to subscribe to new shares to be issued by TOPCO (rather than purchase existing shares acquired by TOPCO on the market). The questions discussed in this section are broadly the same as in the case of a non dilutive stock option plan (Section 2.1), *i.e.*:

- How should the arm's length principle apply in respect of the commercial and financial relations existing between TOPCO and SUBCO? (Section 2.2.1)?
- What transfer pricing methods might be used to determine an arm's length compensation in respect of the commercial and financial relations existing between TOPCO and SUBCO? (Section D-2)?
- How do domestic tax rules interact with tax treaties (including in respect of relieving double taxation under paragraph 2 of Article 9 or under the Mutual Agreement Procedure in Article 25) (Section 2.2.3)?

2.2.1. Applying the arm's length principle: controlled transaction(s) under review, identification of the beneficiary(ies) of the transaction and comparability analysis

The comments in Section 2.1.1 regarding the description of the controlled transaction(s) are also applicable to dilutive plans, except that instead of acquiring shares in itself on the market, TOPCO issues new shares to the employees in order to meet the options granted. The discussion relating to the identification of the beneficiary(ies) of the transaction and comparability analysis are similar for dilutive and non dilutive plans.

2.2.2. Possible approaches for determining an arm's length compensation

Three approaches were discussed in Section 2.1.2 with respect to non dilutive plans:

- A fair value approach.
- A cost based approach.
- An approach from the perspective of SUBCO.

While the fair value approach and the approach from the perspective of SUBCO would remain unchanged in case of a dilutive plan, the cost based approach deserves specific comments.

Whether an approach based on the costs incurred by TOPCO can be applied in the case of a subscription plan is a difficult question. On the one hand it could be argued that the cost-based approach is inappropriate for dilutive plans. The main concern here is that in the case of a dilutive plan TOPCO arguably does not bear the costs relevant to determining transfer pricing consequences because these costs are regarded as borne by TOPCO's shareholders. Under such a view, it would be inappropriate if, because TOPCO records no cost, the charge to SUBCO using a cost-based approach was nil. There should be equivalence of treatment of dilutive and non dilutive plans, in the sense that how the plan is structured in this regard should not affect the value of the service provided by TOPCO to SUBCO. In some circumstances (*e.g.* a dilutive plan where TOPCO recognises no cost), there is arguably insufficient nexus between TOPCO's costs and the value of the provision of the stock option plan for a cost-based approach to be used.

The view that TOPCO does not bear the costs of employee stock options appears to be based on two lines of argument. First, the financial accounting rules of many countries do not charge employee stock options against reported income, and financial accounting standards can be seen as a proxy for, or at least evidence of, economic cost. Second, as a mathematical matter, the dilution that defines a dilutive plan reduces the relative equity interests of existing shareholders in percentage terms.

By contrast, it might be considered under an alternative view that TOPCO does bear the economic cost of the stock options in both dilutive and non dilutive plans. Such a view would rely on the observation that financial accounting is not necessarily grounded in economic analysis, as evidenced by the shifting international accounting standards on many matters, including the very treatment of employee stock options here at issue. Under such a view, accounting standards are not regarded as a particularly reliable proxy for the kind of economic analysis upon which transfer pricing properly is based. Finally, and most fundamentally, the issuance of employee stock options, apart from transfer pricing consequences between TOPCO and SUBCO, has at its root a transaction between SUBCO and its employees, and remuneration, whether in the form of cash, stock options, or other forms of in-kind compensation, should clearly be a cost for transfer pricing purposes.

Recognising an economic cost to TOPCO would effectively eliminate the concern regarding the applicability of a cost-based approach to dilutive plans. Another possible way of dealing with the concern would be to apply the cost-based approach from the perspective of the costs that would be incurred by SUBCO if it acquired TOPCO shares or options on the market. As described in sub-section 2.1.2b), this would mean looking at the market price of the financial instruments rather than costs actually incurred by TOPCO. This could be regarded as a departure from the cost plus method described in the 1995 TP Guidelines and not in accordance with the comparability standard of the 1995 TP Guidelines or the arm's length principle, because it involves speculating about what enterprises that are parties to a dilutive plan would have done to arrive at an arm's length charge. On the other hand, it might present some advantages in practice, as the costs that would have been incurred by SUBCO to obtain TOPCO shares or options serve as a proxy for costs that would be incurred by TOPCO.

In fact, it could also be argued that there is merit in trying to adapt the cost-based approach described for non dilutive plans to dilutive plans, in particular to attempt to provide tax neutrality between both mechanisms. For instance, the variation to Scenario 2 described in the cost-based approach for non dilutive plans could be adapted for dilutive plans, since it refers to the *market price* rather than the *acquisition price* of TOPCO shares, irrespective of the way TOPCO actually procures the financial instruments (*i.e.* issue new shares in the case of a dilutive plan). However, since this would represent a departure from the cost plus method described in the 1995 TP Guidelines, it is not an approach acceptable to all.

Dilutive plans also raise peculiar issues with respect to risks. In practice, in dilutive plans, financing costs would be nil and TOPCO may be less inclined to implement any risk minimisation strategy before exercise date than in a non dilutive plan. However, it could be considered that from TOPCO's perspective, issuing new shares would represent a hedge[11] and that, under a dilutive plan, there would be no rationale in SUBCO being attributed risks in the TOPCO-SUBCO transaction while TOPCO itself does not bear any risk. Accordingly, under this view, there would be some reluctance to apply the cost-based approach to dilutive plans if the starting point was the market price of the shares at exercise date or date of issuance by TOPCO (rather than a measure at grant date). A fair value approach at grant date would rather be preferred.

2.2.3. Applying Article 9 of the OECD Model Tax Convention and interactions with domestic law

The key difference between dilutive and non dilutive plans is that in a dilutive plan, the economic costs associated with the stock options are arguably borne by TOPCO's shareholders rather than by TOPCO itself, *i.e.* under a subscription plan, the entity which meets the legal obligation is arguably not the same as the one incurring the economic costs associated with the plan. It could be argued that this difference provides the basis for differentiating the domestic tax treatment of employee stock option plans. However, this study is not concerned with domestic rules and at the international level there is nothing in Article 9 of the MTC or in its Commentary that would make its application conditional upon a provider incurring the actual expenditure associated with a controlled transaction. What matters for Article 9 to apply is whether the compensation which passes between TOPCO and SUBCO in respect of the employee stock option plan is arm's length, not whether any costs are incurred.

In fact, the difference between dilutive and non dilutive plans affects the financing structure of the plan by TOPCO and the relation between TOPCO and its shareholders. It does not affect the relation between TOPCO and SUBCO. Whether the plan is a dilutive or a non dilutive plan, SUBCO, through the granting of stock options to its employees, is being provided with an identical economic benefit by an associated enterprise. As a consequence, Article 9 of the MTC applies to the transaction between TOPCO and SUBCO irrespective of whether the plan is a dilutive or non dilutive plan and the discussion in section C.4 is found to apply similarly to dilutive plans.

2.3. Preliminary conclusion to Situation I

The implementation of an employee stock option plan by one entity for the benefit of the employees of other entities is a standard transaction in MNE groups, especially where they are listed. The questions discussed in Situation I are:

- How should the arm's length principle apply in respect of the commercial and financial relations existing between TOPCO and SUBCO?
- What transfer pricing methods might be used to determine an arm's length compensation in respect of the commercial and financial relations existing between TOPCO and SUBCO?

- What happens if an employee changes employer within THE GROUP or leaves THE GROUP after the employee options have been granted and prior to when they can be exercised?
- How do domestic tax rules interact with tax treaties (including in respect of relieving double taxation under paragraph 2 of Article 9 or under the Mutual Agreement Procedure in Article 25)?

In this respect a separate analysis is conducted for non dilutive plans whereby employees are offered options to purchase existing shares (Section 2.1), and dilutive plans whereby they are offered options to subscribe new shares (Section 2.2).

The arm's length principle does not address whether or not TOPCO should be required to return an amount as taxable income, nor whether TOPCO or SUBCO should be allowed any tax deductions associated with employee options, nor does it address the question, where such a deduction is granted, of how it should be computed for domestic tax purposes. It is solely concerned with the question of whether any conditions made or imposed between two associated enterprises in their commercial or financial relations differs from those which would be made between independent enterprises.

Irrespective of whether the plan is a dilutive or non dilutive plan, the arm's length principle of Article 9 of the MTC is found to be applicable to the transaction that takes place between TOPCO and its subsidiaries SUBCOs with respect to the provision of a stock option plan by TOPCO.

When applying the arm's length principle to the transaction between TOPCO and SUBCO with respect to the provision of a stock option plan, the lack of comparable uncontrolled transactions inevitably restricts the ability to directly use the transfer pricing methods described in the 1995 TP Guidelines. In trying to determine an arm's length compensation for the transaction(s) between TOPCO and SUBCOs, three possible approaches have been envisaged:

- An approach based on the fair value of the financial instruments provided (*i.e.* the stock options) either by reference to the adjusted market price of comparable options or, where there is no observable market price, by applying an appropriate option pricing model adjusted to account for the specific features attached to options offered to employees.
- An approach based on the costs associated with the establishment and provision of the stock option plan.
- An approach based on the value of the stock option plan for the subsidiary that employs the individual beneficiaries of the options.

Each of these approaches has strengths and weaknesses and there remain questions on the validity and practicalities of these approaches, as well as on any other possible approach or combination of approaches.

Whatever the approach, the conclusion of this study is that the arm's length pricing method for the transaction or components thereof should be determined upon establishment of the plan and agreement by SUBCO to participate in it (in any case no later than grant date).

With respect to dilutive plans, a particular issue arises from the fact that the economic costs associated with the plan are arguably borne by the shareholders of the company issuing the plan rather than by the issuer itself. This line of reasoning could be considered as the basis to differentiate dilutive and non dilutive plans for domestic tax purposes. This view also creates particular difficulties when trying to apply the cost based approach. However, for transfer pricing purposes, there should be neutrality to the extent possible between dilutive and non dilutive plans. This is mainly because the relation between TOPCO and its subsidiaries is not altered by the manner in which the stock option plan is financed. Both dilutive and non dilutive plans lead to the same economic effect, *i.e.* a transfer of value from TOPCO to the employee that is intrinsically comparable. Moreover, introducing different treatments for transfer pricing purposes depending on what legal scheme is implemented would open significant tax arbitrage opportunities and might not lead to the desired outcome in terms of policy.

An important question concerns the interaction of Article 9 with domestic tax rules, in particular in the case where the domestic law in one Contracting State does not allow a tax deduction in respect of certain amounts associated with a stock option plan, while domestic law in the other Contracting State requires an amount to be returned as income. In the TOPCO example, TOPCO's profits might be adjusted under Article 9-1 of the MTC to account for an arm's length compensation for options granted to employees of a subsidiary SUBCO if no such compensation (or compensation lower than an arm's length amount) is initially provided. Similarly, SUBCO's profits might be adjusted if there is compensation initially provided to TOPCO higher than arm's length. Under Article 9-2 and/or Article 25 of the MTC, a corresponding adjustment in the other State would only be needed if the primary adjustment corresponds to an amount that has been charged tax in that other State, such an adjustment to the amount of the tax charged is "appropriate" and therefore reflects the arm's length principle, and an arm's length charge for stock options if paid by SUBCO to TOPCO would be deductible under the rules of the State of residence of SUBCO. However, it may be important to agree on the quantum of stock options to be allocated between TOPCO and SUBCO even where SUBCO's jurisdiction does not permit a tax deduction in relation to stock options.

3. Situation II

The impact of employee stock options on controlled transactions (other than transactions with respect to stock options) in which the employees benefiting from stock options are involved

and

The impact of employee stock options on comparability analysis when employee remuneration of the tested party or the comparables are materially affected y stock options.

Situation II discusses how employee stock options may affect the application of the arm's length principle to controlled transactions (other than transactions with respect to stock options) involving the employees benefiting from stock options. Based on the premise that employee stock options are remuneration, they should be treated as such when applying any transfer pricing method authorised in the 1995 TP Guidelines. Accordingly, where the transfer pricing method applied is sensitive to employee remuneration, the existence of an employee stock option plan may affect the arm's length price of controlled transactions involving beneficiaries of the option plan.

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Issues may arise with respect to the definition of costs of the controlled enterprise as well as with the identification of costs incurred by third parties involved in comparable uncontrolled transactions. Both aspects are pretty much inter-related in practice. Section 3.1 below focuses on the general question of definition of costs in the transfer pricing methods that are sensitive to remuneration costs and Section 3.2 focuses on comparability issues that arise in practice when applying these methods, once it has been established that stock options should be taken into account.

It should be noted that in Situation II, unlike Situation I, it does not matter whether the costs of employee stock options are or are not deductible for tax purposes under domestic law, given that the goal is to establish an arm's length price for a transaction other than an employee stock option arrangement. This issue is discussed in more detail in Section H below.

3.1. The impact of stock options on controlled transactions (other than transactions with respect to stock options) in which the employees benefiting from stock options are involved

For the purpose of this discussion, we may consider for illustration purposes:

i) The case where controlled transactions are undertaken by a subsidiary (*e.g.* controlled transactions undertaken by SUBCO) that is charged by its parent company (*e.g.* TOPCO) with respect to the provision of a stock option plan for employees of the subsidiary, consistently with the principles elaborated in Situation I of this document.

ii) And the case where controlled transactions are undertaken by the company that issues the stock option plan for its own employees (*e.g.* controlled transactions undertaken by TOPCO)

In the first case there will always be an expense recognised in the financial accounts of SUBCO (since SUBCO is charged by TOPCO for the provision of the employee stock options plan[12]). In case *ii)* depending on accounting standards in TOPCO's jurisdiction, the expense may or may not be recognised in TOPCO's financial statements.

This section reviews the potential impact of employee stock options on controlled transactions remunerated using a cost plus method, a transactional net margin method and a transactional profit split method.

3.1.1. Transactions remunerated using the cost-plus method

The cost plus method involves two issues: the definition of the cost basis and the determination of the mark-up to be applied to that cost basis. Both involve comparability issues as discussed in section G. For now it can be noted that the existence of a stock option plan, and the way in which it is treated in the tax and/or financial accounts, can have a direct impact on the cost basis to which any mark-up is to be applied if this cost basis is determined by reference to accounting standards. Since the premise in this study is that stock options are remuneration, it follows that the costs of stock options attributed to employees' participating in a given controlled transaction should be included in the cost basis irrespective of their accounting treatment, to the extent that other components of said employee remuneration are included in the cost basis at arm's length.

In determining the cost basis only the costs of stock options that are attributed to employees involved in the controlled transaction under review and that remunerate the activity of the employees with respect to said transaction should be included in the cost basis. For example, assume SUBCO A is performing a manufacturing activity for associated enterprises, remunerated using a cost plus method, and a service activity for third parties that is separately charged to these third parties. The costs associated with the provision of stock options to employees involved in the manufacturing activity should in principle be taken into account in the cost basis when applying the cost plus method to this activity, but only to the extent they remunerate the participation of employees in this manufacturing activity. If some employees are involved in both the manufacturing and the service activity, only a fair portion of their remuneration costs and hence of their stock options should be included in the cost basis for application of the cost plus method to the manufacturing activity. Said fair portion should be determined consistently with the determination of the employment services remunerated through the granting of stock options (see discussion in Situation I under sub-section 2.1.1b)). What should be identified is not only the right proportion of stock options but also the right period of employment services remunerated through said options.

In the example described in the above paragraph, the amount that should be included in SUBCO A's cost basis is the relevant proportion of the amount charged by TOPCO for stock options granted to manufacturing employees, to the extent the amount is determined at arm's length in accordance with the principles set out in Situation I. If the amount charged by TOPCO to SUBCO A is not determined at arm's length, this may affect the price of the transaction that SUBCO A will in turn charge to other members of THE GROUP on a cost plus basis. In particular, if the charge by TOPCO to SUBCO A is not determined upon establishment of the plan or if there is not a fair allocation of risks between TOPCO and SUBCO A, it can adversely impact the arm's length character of the transactions charged by SUBCO A to other associated enterprises.

This can be illustrated by another example whereby SUBCO B is a subsidiary of TOPCO that provides trouble-shooting services to related parties on request. TOPCO allocates SUBCO B a number of stock options to be distributed to its employees based on performance criteria decided by SUBCO B.

In Year 1 SUBCO C, another subsidiary of TOPCO, requests the assistance of SUBCO B. The trouble-shooting service is a success and the cash remuneration and stock options allocated to the employees of SUBCO B in that year in part reflect that success. Fair value of those options in Year 1 is 200. According to the stock option plan, options attributed to SUBCO B's employees in Year 1 will be exercisable in Year 4. In Year 4 SUBCO D, another subsidiary of TOPCO, requests assistance from SUBCO B. This time the trouble-shooting mission is less successful and that lack of success partly explains the lower number of options allocated to employees of SUBCO B in that year (fair value of options attributed in Year 4 is 100). In Year 4 employees of SUBCO B exercise the options that were attributed to them in Year 1 and make a gain corresponding to the difference between share market price in Year 4 and strike price (spread) amounting to 500.

At arm's length, the price charged by SUBCO B to SUBCO C for services rendered in Year 1 should take into account the options attributed to SUBCO B's employees in remuneration of their successful mission in Year 1, irrespective of the fact that TOPCO might actually charge SUBCO B for those options in a subsequent year (depending on the contractual arrangement between TOPCO and SUBCO B). On the other hand the price charged by SUBCO B to SUBCO D for services rendered in Year 4 should not take into account options exercised by SUBCO B's employees in Year 4 because those options do not remunerate services performed in SUBCO D's interest – otherwise the charge to SUBCO D in Year 4 would be based not on the value of services provided to SUBCO D in Year 4 alone, but would include the cost of options awarded to them for previous years' efforts on behalf of SUBCO C.

	Year 1 – services to SUBCO C	Year 4 – services to SUBCO D
Fair value of options to SUBCO B's employees	200	100
Spread earned by SUBCO B's employees		500
Included in cost base and charged to SUBCO C	?	?
Included in cost base and charged to SUBCO D		?

In the event where the controlled transaction remunerated using a cost plus method is undertaken by TOPCO itself, *i.e.* by the company issuing the stock options, and TOPCO does not record an amount for the options in its financial accounts, the determination of the amount to be included by TOPCO in the cost basis would raise similar issues as described in sub-sections 2.1.2b) and 2.2.2 with respect to the cost-based approach applied in the context of Situation I.

Assume for example that TOPCO is providing management services to a number of affiliates in other jurisdictions, charged on a cost plus basis. Assume also that employees involved in this management services activity receive stock options issued by TOPCO for their services, and no cost is recorded by TOPCO in this respect in accordance with accounting standards in TOPCO's jurisdiction. The question arises of whether or not stock options should affect the application of the cost plus method when determining the arm's length compensation for management services provided by TOPCO.[13]

In Situation I, issues arise as to whether it is possible to use a cost based approach where there is no cost recorded (see Section 2.2.2). However, even if one regards such an approach as impossible to use, the alternative methods described in the context of Situation I are available, *i.e.* the fair value approach or the approach from the perspective of SUBCO. In the context of the example described above, the assumption is that the cost plus method has been selected to remunerate a service transaction that is different from the provision of stock options. Three possible solutions might be considered in this case:

- Simply ignore stock options and adopt a strict accounting costs basis. A consequence of this would be that potentially the price of services would be different depending on whether employees providing the services are remunerated in cash or receive stock options and on how said stock options are accounted for in the supplier's accounts. This seems to be an unsatisfactory outcome for transfer pricing purposes.
- Or adjust TOPCO's cost basis to account for stock options granted to employees involved in the management services activity, irrespective of their accounting treatment. The quantum of the adjustment should be determined following principles described in Situation I, *i.e.* presumably applying either a fair value approach or a cost based approach based on market prices (see section G hereafter).
- Or change the method applied to remunerate the service activity. In particular, if no reliable adjustment can be made to the cost plus method, it would follow that this method is in fact not appropriate.[14]

Whatever the solution, the amount charged by TOPCO in relation for the provision of services should follow the guidance in Chapter VII of the 1995 TP Guidelines (in particular at paragraph 7.29).

3.1.2. Transactions remunerated using transactional net margin method

In cases where a transactional net margin method is applied to determine the arm's length compensation for a given controlled transaction, remuneration costs will generally have been deducted when determining the net margin. Based on the premise that stock options are part of an enterprise's remuneration costs, the net margin should be set after taking account of the effect of stock options granted to employees for employment services that relate to the controlled transaction.

Similar issues to the ones discussed with respect to the cost plus method would apply in the case of a transactional net margin method, *i.e.* what amount should be taken into account with respect to the provision of employee stock options when computing the net margin of a controlled transaction, as well as the need to take into account the appropriate period of services (see sub-section 3.1). In particular, where the transactional net margin method is applied to controlled transactions undertaken by a subsidiary participating in a stock option plan established by its parent company TOPCO, the amount that should be taken into account in the determination of the net margin of the controlled transactions would be the amount charged by TOPCO with respect to stock options granted to employees participating in the controlled transaction so remunerated, to the extent that said charge is determined at arm's length. Where the controlled transaction remunerated using a transactional net margin method is undertaken by TOPCO itself (*i.e.* by the company issuing the stock options), the determination of the amount to be taken into account in the determination of the net margin of the controlled transaction would raise similar issues as the ones described in sub-section 3.3.1 with respect to transactions remunerated using the cost plus method.

3.1.3. Transactions remunerated by a profit split method

Profit split methods are potentially very sensitive to remuneration costs. Remuneration costs – and hence employee stock options based on the premise that they are remuneration – can affect profit split methods in two ways. Firstly they may impact upon the quantum of the profit to be split (depending on whether the profit to be split is before or after deduction of remuneration costs). In this respect, similar issues arise as the ones discussed in 3.1.1 for the cost plus method and 3.1.2 for the transactional net margin method.

Secondly remuneration costs may be a factor in determining how the profits are to be allocated between the parties (as is often the case for instance in global trading cases, see work on the Attribution of Profits to Permanent Establishments). The same principles as for the quantum of the profit to be split would apply to the determination of how employee stock options would affect the allocation key which splits the profits, *i.e.*:

- Need to take employee stock option remuneration into account in the same way as other components of employee remuneration.
- Need to take into account only stock options attributed in relation to employees' participation in the controlled transaction to which a profit split is applied.

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- Need to take into account an arm's length value for stock options – whether they are attributed by the company undertaking the controlled transaction under review or by a parent company.
- Need to take into account the appropriate period of services remunerated through the granting of stock options. For instance, if stock options are attributed in remuneration to services performed by employees in Year 1, they should affect the allocation key for that year irrespective of the year during which they are actually charged.

In practice, this would require proper identification of what employment services are remunerated through the granting of stock options (nature and period of employee's activity) (see discussion of contractual terms in Situation I, sub-section 2.1.1b)).

3.2. The impact of stock options on comparability analysis when employee remuneration of the tested party or the comparables is materially impacted by stock options. determining a comparability adjustment

3.2.1. Comparability issues raised by employee stock options

The premise is that employee stock options are remuneration in the same way as other types of incentives *e.g.* cash bonuses or benefits in kind. However due to the lack of uniform accounting treatment of employee stock option plans across jurisdictions, entities are not always required to identify employee stock options in company accounts as salaries or even as expenses. This lack of uniformity in the accounting treatment of such plans mainly has consequences for ensuring comparability between the controlled and uncontrolled transactions and for the application of transfer pricing methodologies (see paragraphs 2.28, 2.39-2.40 and 3.40 of the Guidelines) and is liable to introduce certain distortions into transfer pricing:

- Between transactions undertaken by enterprises that operate stock option plans, depending on whether they are booked as expenses or not.
- And, more generally, between enterprises in comparable lines of business, depending on whether or not their employee remuneration policy includes the granting of stock options.

Comparability adjustments in respect of employee stock options may need to be made by taxpayers in determining their transfer pricing of transactions other than those concerning the granting of stock options and by tax administrations in examining whether a taxpayer's transfer prices are consistent with the arm's length principle. The comparability adjustments should meet the criteria of economic relevance and accuracy. It is recalled that:

> "To be comparable means that none of the differences (if any) between the situations being compared could materially affect the condition being examined in the methodology (*e.g.* price or margin), or that reasonably accurate adjustments can be made to eliminate the effect of any such differences." (paragraph 1.15 of the 1995 TP Guidelines.)

Comparability issues in connection with employee stock options will arise each time the transfer pricing method applied is sensitive to employee remuneration, *i.e.* in particular when the method is a cost plus, a transactional net margin or a profit split method. The following discussion concentrates on comparability issues in applying the cost plus method because it seems that the issues are common to all transfer pricing methods that are sensitive to employee remuneration.

3.2.2. Determining a comparability adjustment

a) Method of adjustment

Three types of potential comparability adjustments are discussed below:

i) Re-classification of stock options costs for the purposes of costs accounting, when costs are identified but recorded for instance as non operating expenses.

ii) Accounting for the value of options granted when an expense is recognised by the controlled enterprise but not by the uncontrolled enterprise.

iii) Accounting for the value of options when an expense is recognised by neither the controlled enterprise nor the uncontrolled enterprise.

i) Re-classification of stock options expenses for the purposes of making comparability adjustments.

In some cases the costs of granting the options, although recognised as expenses in the profit and loss accounts of the enterprise, need to be re-classified for the purposes of cost accounting for transfer pricing. For instance, it may be the case that option costs are booked below Earnings Before Interest and Tax. They may also be recorded as operating expenses but not as salaries. They may require re-classification as manufacturing costs for the purposes of determining a mark-up on costs, etc. Such re-classification adjustments are particularly difficult to make with respect to third-party comparable data because the necessary information is usually not publicly disclosed.

ii) Taking account of the value of options granted when an expense is recognised by the controlled enterprise but not by the uncontrolled enterprise.

Adjustments are even more difficult to perform when options are not reflected in the uncontrolled company's expenses, for instance, when a comparison is made with a third party that is known to grant options to its employees without these options being reflected in the company's profit and loss accounts. The example below considers the comparability issues which arise when applying a cost plus method in situations where one independent comparable issues stock options and another does not. SUBCO M is a subsidiary of TOPCO (see Situation I) that includes in its remuneration policy the attribution of stock options to certain categories of employees. The stock option plan is issued by its parent company TOPCO and invoiced at arm's length by TOPCO to SUBCO M in accordance with the principles set out in Situation I. This charge is recognised as an expense in the profit and loss accounts of SUBCO M.

Entity B is an independent enterprise and issues subscription options to its employees on its own shares. Pursuant to the accounting standards applicable in the jurisdiction of B, B does not book an accounting expense in respect of the options. Entity C is also an independent enterprise and does not issue options to its employees but pays them performance-related cash bonuses.

SUBCO M, Entity B and Entity C manufacture similar industrial equipment under comparable economic terms for TOPCO situated in a different tax jurisdiction. The equipment manufactured is, however, not comparable enough to apply the Comparable Uncontrolled Price method. The transfer prices from SUBCO M to TOPCO were set at cost price plus 15 per cent. The sale prices and costs of goods sold by Entity B and Entity C are shown in their respective financial accounts:

	SUBCO M	Entity B	Entity C
Cost of Goods Sold (including wages of manufacturing employees)	800 (including stock options 100)	1 050	1 600 (including cash bonus 215)
Sales price	920 (Cost of Goods Sold plus 15%)	1 320	1 860
Gross profit	120 13%	270 20%	260 14%

Companies B&C have been identified as potential comparables of SUBCO M in order to ascertain the arm's length character of the controlled transactions of SUBCO M. This raises the issue of whether any differences in the remuneration policies and accounting standards of B and C from those of SUBCO M would affect their reliability as comparables.

In the accounts of SUBCO M, an amount of 100 represents the arm's length compensation paid to TOPCO in respect of the provision of options granted to production personnel, and is treated as a direct production cost in the same way as salaries. This is consistent with the view that options are a component of remuneration, just like a performance-related cash bonus. It therefore seems appropriate to include this amount in SUBCO M's cost basis when SUBCO M is applying a cost plus method to its production activity. The question then is what the appropriate mark-up is: 20% as disclosed by accounts of entity B or 14% as disclosed by accounts of entity C.

As regards the accounts of entity B, the question that arises is whether or not a comparability adjustment may be needed in respect of the differences between the accounting treatment of options issued by B and those enjoyed by the employees of SUBCO M. This question can be addressed by examining whether the full value of employees' remuneration has been reflected in the accounts of the controlled entity and in the potential comparables on a consistent basis. In examining Entity B, it can be concluded that the full value of employees' remuneration has not been reflected in Entity B's accounts because no account has been taken of the value of the employee options provided by B to its employees. In contrast, SUBCO M's accounts include the full value of employees' remuneration.

An adjustment to the accounting data of B would therefore be necessary for it to be comparable. However, in order to make such an adjustment, a considerable amount of further information would be needed about the remuneration policies of entity B, information which may often not be available in practice. The remuneration policy of SUBCO M is known to reward employees with a cash to stock options ratio of 7:1 (*i.e.* 700 cash and options with a fair value of 100). Whilst it is reasonable to assume that market forces will dictate that, in aggregate (cash plus options), employees of both entities will receive an arm's length amount for the services rendered, different MNE groups may weigh the option to cash components differently. The fact that the value of SUBCO M options make up 12.5% of employee remuneration does not mean that the same is true of entity B. It follows that, in the absence of information about the value of options granted to employees of entity B, taxpayers and tax administrations will find it very difficult to make reliable adjustments to the cost basis (and hence the mark up) of entity B so that it can be comparable.

As regards entity C the question to be answered is what adjustments, if any, need to be made to take account of the fact that SUBCO M issues options to its employees and entity

C does not. Following the analysis above it would seem that no adjustment is necessary: in aggregate the remuneration of employees of both SUBCO and entity C is arm's length for the services provided. The accounts of both SUBCO M and entity C reflect the full remuneration packages of their respective employees, so the mark-up achieved by entity C should be applied to the cost pool of SUBCO M (which includes an arm's length compensation for the stock options).

The conclusion would seem to be that while it is appropriate to include an arm's length compensation for stock options in the cost basis, in seeking to determine the mark-up to be applied to that cost basis an entity which does not issue options to its employees would often be a more reliable comparable than an entity that does issue options whilst failing to account of them.[15] Entities which do issue options can be reliable comparables if – and in the context of the current divergence in accounting treatments this is a big "if" – the value of the options can be readily ascertained, for example if disclosed elsewhere in the accounts with a sufficient level of detail (*i.e.* breakdown by type of activities or transactions). The current evolution of accounting standards towards greater transparency of financial information should make it possible in most cases to know whether a company offers options to its employees, and what is the market value of options granted.[16] Even then, a split by categories of employees or by transactions may generally not be accessible to third parties.

iii) Taking account of the value of stock options granted when no expense is recorded in either the controlled party or the uncontrolled party

The example is the same as set out in paragraph 193 except that the controlled entity SUBCO M does not record costs with respect to stock options.

	SUBCO M	Entity B	Entity C
Cost of Goods Sold (including wages of manufacturing employees)	700 (excluding stock options)	1 050	1 600 (including cash bonus 215)
Sales price	805 (Cost of Goods Sold plus 15%)	1 320	1 860
Gross profit	105 13%	270 20%	260 14%

A question arises as to whether nevertheless an amount in respect of employee options should be included in the cost basis of SUBCO M for the purpose of applying a cost sensitive method. In light of the discussions above, it would seem that an amount in respect of employee options should be included in the cost basis to the extent that the cash element of employee remuneration is included. This is because the value of products manufactured or of services performed by an entity (*e.g.* by SUBCO M and Entity B in the example) is not affected by the accounting treatment of stock options granted to their respective employees. In other words the value added by employees receiving stock options might be affected by the benefits they expect from these options, and therefore by the number of options, vesting conditions, expected increase in underlying stock value, etc. but it is unlikely to be materially affected by whether these plans entail costs to be recognised for accounting purposes. The fact that neither SUBCO M nor Entity B expense their employees' stock options does not make their cost base necessarily comparable: this

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would only be the case if the remuneration packages of TOPCO and Entity B had similar weightings of cash to options.

In this context it is worth recalling that Situation II refers only to transactions other than employee stock options on which the pricing of stock options has a *material* impact on comparability. In cases where the impact of stock options on comparability is not likely to be material it may be enough to compare the cost bases of TOPCO and Entity B without making adjustments for stock options.

b) Period to which the comparability adjustment relates

If it is accepted that the valuation of stock options should be determined at the date of grant, the next problem is to determine the period over which it is appropriate to account for that value. Should it be expensed in full in the year of grant, spread over the vesting period, expensed in full in the year in which the options vest, or some other period? As discussed in Situation I section 2.1.1, the answer to this question depends very much on the facts and objectives of the particular stock option plan. As discussed in Situation I, it should in the first instance be for the taxpayer to determine over which period to expense the option having regard to the objectives and role of the option scheme in the group's remuneration strategy. When reviewing controlled transactions undertaken by taxpayers that are compensated using a transfer pricing method that is sensitive to employee remuneration, taxpayers and tax administrations need to ensure that the costs associated with the stock option plan (whether directly borne by the employer or charged to it by a parent company) are allocated to the year or years in which those options have rewarded or incentivised the employees. More problematically, taxpayers and tax administrations may need to know the expensing periods of the third party comparables. Moreover, in this instance converging accountancy practice may be of limited assistance if it adopts a one-size-fits-all approach; *i.e.* that either all options are to be expensed in year of grant, or all options are to be expensed over the vesting period, irrespective of whether the options are intended to reward employees for past or future services. It may be however that the use of multiple year data will enable the taxpayer and tax administration to establish an appropriate mark-up over costs.

Should the taxpayer's timing of the expense be adjusted by the tax administration it is important to bear in mind the impact on other methods and comparability. Where a cost plus method is used, for example, only stock options expense that is employee remuneration for the year in which the service is provided is to be included in the cost basis. If the taxpayer has over- or under-provided for the value of stock options in a particular year, this will create an incorrect cost base for charging the services and hence an incorrect price for those services. This creates particular problems when the determination of the charge and settlement for the stock options is deferred until the year of exercise. It can be seen from the example discussed in F.1 that deferring settlement until year four meant that the accounts of SUBCO B (the employer and service provider) did not reflect the cost of the options in the year the service was provided, and that in consequence the full price to SUBCO C would not be known until 3 years after the service was provided. Similar problems occur in any method which does not finalise valuation and make a charge at the date of grant.

Let us take the case of employees who receive options from an entity designated as the PROVIDER in respect of activity during year N, which can be exercised in year N + 3. These employees are involved during year N in intra-group industrial sub-contracting work for an affiliate designated as the CLIENT, which is remunerated on a cost-plus basis. Any adjustments to the accounts of the PROVIDER and transfer price calculations for products sold in year N should be made in respect of year N. At arm's length it would seem difficult for the CLIENT to accept that an additional unpredictable amount be invoiced in year N + 3 in respect of the price of products purchased in N from the PROVIDER, unless the conditions of this additional invoicing had been specified in year N and the CLIENT had been able to make adequate provision for it in its accounts in respect of year N. An adjustment made on the basis of the cost or value of the options at the date of grant should make it possible to meet this concern.

A specific difficulty relates to the determination of the period of activity remunerated by the options. In the example in G.1, it was assumed that the option expense of 100 recorded by SUBCO M related entirely to services provided by employees in year N. However if it transpired that the stock option expense of 100 recorded by SUBCO M above should in fact have been spread over 4 years, then only 25 should have been recorded in the year of review, and the cost basis of SUBCO M reduced by 75. Actually, when options are granted, the period that they remunerate is not always specified. This period may be prior to, or after, the date at which the options are granted; it may be spread over several years. This difficult question was discussed under section 2.1.1 above.

Lastly, it will be noted that if the options are granted by an associated enterprise that is distinct from the employer and invoiced in accordance with the principles set out in Part I, the employer would need to be able to approximate the amount that will be billed to it when it, in turn, calculates the transfer price if such prices are set based on a method that is cost-sensitive. Any material uncertainty about future charges to be received by the employer for activities performed in the past by its employees would complicate or perhaps undermine the subsequent application of transfer pricing methods between the employer and the entities it is dealing with (see discussion under section 2.1.2 above).

3.3. Interaction between domestic rules and tax treaties

In Situation II, stock options are only a component in the calculation of arm's length compensation in respect of controlled transactions. This raises the question of the characterisation of any payment between associated enterprises that incorporates the cost or value of stock options in accordance with the principles described under Situation II. The same characterisation issue arises if a tax administration makes a primary adjustment to take account of the cost or value of stock options in determining the price of another transaction.

If such payments or primary adjustments are characterised as being the price for the provision of stock options themselves, similar issues as those raised in section 2.1.4 above may arise, concerning interactions between domestic tax rules and treaty rules. In particular, arbitrage opportunities (and risks of double taxation) may exist where one jurisdiction offers a tax deduction for stock option costs while the treaty partner regards them as non taxable and non tax deductible items.

However, adjustments with respect to stock options under Situation II will generally be regarded as adjustments to the cost of a transaction that is of a different nature, *i.e.* not the provision of an employee stock option plan. Suppose a taxpayer provides intra-group marketing services remunerated on a cost plus basis, in which the cost of stock options is not included. Where the tax administration auditing the taxpayer makes an

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adjustment, considering that stock options should be included in the chargeable basis, this adjustment should be regarded as pertaining to the price of a marketing service charge rather than to stock options. The same reasoning would apply to other elements that constitute the cost of a service, *e.g.* other elements of the remuneration of the provider's employees, depreciation of assets recorded by the service provider, costs of premises, etc.

3.4. Preliminary conclusion to Situation II

The existence of an employee stock option plan, and its accounting treatment, can influence transfer pricing of other transactions when such pricing is sensitive to the employee remuneration of one of the parties to the transaction and the stock options are material. Accounting standards vary among countries and currently not all countries regard stock options as entailing an expense to the profit and loss accounts of the company that issues them. When conducting comparability analysis it is important to ensure consistency in the cost basis of both the tested entity and the potential comparable, and it may be necessary to make adjustments to the accounts of either or both entities.

Such adjustments, where decided, may pose significant practical difficulties however, notably the difficulty of gaining access to information about the value of the options granted to employees or categories of employees and determining the period to which the adjustments relate. When, in material cases, it is not possible to make satisfactory adjustments, another transfer pricing method that is less sensitive to the employee remuneration may be considered, either in the first instance or as a consistency test.

More generally, the issue of comparability adjustments to account for diverging accounting standards leads to the broader question of what accounting standards should be used in comparability analyses and the wider issue of what taxpayers are supposed to do if there is no publicly available data to enable them to determine intra-group transfer prices. These wider issues are addressed in a separate project conducted by the OECD on Comparability issues in general. An invitation to comment and a number of contributions received from the public on that project can be found on the OECD Internet site (www.oecd.org/taxation).

4. Situation III: The impact of stock options on Cost Contribution Arrangements (CCAs)

Cost Contribution Arrangements are defined in paragraph 8.3 of the Guidelines:

"A CCA is a framework agreed among business enterprises to share the costs and risks of developing, producing or obtaining assets, services, or rights, and to determine the nature and extent of the interests of each participant in those assets, services, or rights."

The existence of employee stock option plans poses the question of whether or not stock options should be accounted for in the determination of each participant's contribution to a CCA, especially when a participant contributes with the activity of its employees rather than with cash. In those cases where it is found that stock options should be accounted for, there are further questions as to what valuation principles should be followed.

4.1. Example

The application of the arm's length principle to a CCA may be illustrated by considering a CCA entered into between Entity A, resident in State A, and Entity B, resident in State B, to develop a valuable intangible. It is to be assumed that the arrangement does not entail any transfer of an existing intangible. Based on reasonable estimates, the participants project that Entity A will receive 40% and Entity B will receive 60% of the total benefits they expect to obtain from the CCA. Accordingly, Entity A agrees to contribute 40% and Entity B agrees to contribute 60% toward the costs of developing the intangible. If the combined costs incurred by Entities A and B amount to 200X during the relevant tax period, Entity A's share pursuant to the arrangement is 80X (that is, 40% of 200X), and Entity B's share is 120X (that is, 60% of 200X). If States A and B each allow a deduction for research and development costs, then under paragraph 8.23 of the Guidelines, Entity A and Entity B are each entitled to deductions of 80X and 120X, respectively, as if their cost contributions were made outside the CCA to carry on a research and development activity.

Suppose that during the relevant tax period, Entities A and B actually incur the 200X of combined costs equally rather than in proportion to their CCA percentages. Because Entity B has actually contributed only 100X, an adjustment would be needed *e.g.* through Entity B making or imputing a balancing payment of 20X to Entity A for the CCA to satisfy the arm's length principle (see paragraphs 8.18 and 8.26 of the Guidelines). Under paragraph 8.25 of the Guidelines, the balancing payment should be treated for tax purposes as an addition to Entity B's costs and a reimbursement and reduction of Entity A's costs. If State A's and State B's domestic laws treat balancing payments consistently with the corresponding costs, the balancing payment will reduce Entity A's otherwise allowable deductions to 80X and increase Entity B's deductions to 120X.

Suppose now that a significant portion of the contributions of Entity A are in the form of making available to the CCA the labour of Entity A employees in developing the intangible. In the event that the employees of Entity A were paid wholly in cash there would be no problem in principle with incorporating these remuneration costs into the CCA, though questions may arise regarding amounts of remuneration incorporated and the determination of the period to which they relate. Suppose, however, that a significant portion of the remuneration of those employees is in the form of options on Entity A stock, while Entity B does not have a stock option plan. The key issues to consider are:

- Whether or not stock options should be accounted for in determining Entity A's contribution to the CCA and future rights in the intangible developed (Section 4.2 below).
- In cases where stock options are accounted for, what the valuation principles should be (Section 4.3).

4.2. Should stock options be included in the valuation of the contributions of participants to a CCA?

In the above example (Section 4.1), if 30X of the 100X of costs incurred by Entity A were in the form of stock options granted to employees in relation to the intangible development activity but were not taken into account as contributions under the terms of the CCA, then total contributions would be only 170K. Entity A's share pursuant to the arrangement would be 68X (that is, 40% of 170X), and Entity B's share 102X (that is, 60% of 170X). Because Entity B has actually contributed 100X, Entity B should make a balancing payment of 2X to Entity A. This payment would be 18K less than the payment in the original example because the participants in the second example would not treat the 30X of stock options as an Entity A contribution of which Entity B must bear its 60% share under the CCA (60% of 30X = 18X).

There have been active discussions in the business community on this question and some commentators have expressed views against the inclusion of stock options in the valuation of participants' contribution to a CCA. One of their main arguments is that third parties dealing at arm's length do not and would not include stock options in charges made according to CCAs. This argument raises a number of concerns.

Application of the arm's length principle is ordinarily based on a comparison of the conditions in a controlled transaction with the conditions in transactions between independent enterprises (Section C(i)(a) of Chapter I of the 1995 TP Guidelines). For such comparisons to be useful, the economically relevant characteristics of the situations being compared must be sufficiently comparable. Paragraph 1.39 of the 1995 TP Guidelines acknowledges that associated enterprises are able to make a much greater variety of contracts and arrangements than can unrelated enterprises and may and frequently do enter into arrangements with associated enterprises that are not or are very rarely encountered between independent enterprises. In such cases, practical difficulties arise in applying the arm's length principle. This is because independent enterprises seldom undertake transactions of the type entered into by associated enterprises, so there is little or no direct evidence of what conditions they would establish (see paragraph 1.10 of the 1995 TP Guidelines).

Where independent enterprises do enter into transactions of the type entered into by associated enterprises, it would not be sufficient to simply obtain evidence of cases where independent enterprises did not include employee options in their CCAs. It would also be necessary to examine the economically relevant characteristics of the situations being compared to understand why the independent enterprises did not include employee options in the valuation of participants' contributions to their CCA. Where examination of the surrounding circumstances establishes that the associated enterprises have acted in a way which is comparable with independent enterprises, this would provide very good evidence of arm's length dealings – irrespective of whether the independent enterprises have included or excluded employee options from the valuation of the contributions of a participant to the CCA.

On the other hand, where examination of the surrounding circumstances establishes that the associated enterprises have acted in a way which is not comparable with independent enterprises (*i.e.* having regard to the available evidence of what conditions would have been established between independent enterprises), then regard should be had to the guidance in paragraphs 1.40, 1.39 and 1.10 of the Guidelines in order to determine what behaviour might reasonably be expected of independent enterprises acting independently in circumstances economically consistent with the conditions established between the associated enterprises.

One possible reason for participants' decision not to include stock options in their contribution to a CCA is the failure of accounting standards to reflect the stock options as costs. Such behaviour might change when accounting standards change, possibly suggesting that that this explanation for the non-inclusion is inadequate as a transfer pricing analysis because it relies on changeable accounting standards. However, some commentators believe that the third-party non-inclusion behaviour should be taken at face value without regard to the underlying causes. These commentators suggest that although it may be commercially rational to include stock options in CCA contributions, and although the failure of third parties to do so as a result of accounting standards may reflect a failure of the market to account properly for stock options, non-inclusion would nevertheless be consistent with transfer pricing principles because it properly reflects the manner in which unrelated third parties act in the market. Under such a view, if, upon a change in accounting standards, CCA participants began to adopt commercially rational behaviour by taking account of stock options, the change would reflect a correction of the current market failure by augmenting the amount and accuracy of the information provided to the market in the form of financial accounting.

Another possible reason for excluding stock option costs from participants' contributions to a CCA may be a perceived difficulty in accounting for options. Some commentators have suggested that, similar to failure to include based on accounting standards, this is a valid explanation for non-inclusion from a transfer pricing perspective because it reflects the manner in which unrelated third parties act in the market. Under new accounting standards, the perception of difficulty may be diminished and may result in inclusion of stock option costs. Other commentators, as in the discussion of accounting standards, have suggested that difficulty or perceived difficulty is not a proper basis for exclusion because it effectively relies on extraneous non-economic factors rather than a proper transfer pricing analysis.

There may also be cases in which third parties fail to include stock options, but have an economic relationship that is in fact very different from the economic relationship between the participants in a CCA. Failure to include stock options under these circumstances does not necessarily imply that parties at arm's length would not take stock options into account in the context of an arrangement similar to a CCA.

Other possible reasons why arm's length participants to CCAs do not specifically include options in CCAs may be that they are implicitly considered in the overall agreement, or that there are natural set-offs. There may be cases where both parties to the CCA grant proportionately similar amounts of stock options to their own employees and could therefore agree to exclude stock options without making the arrangement unbalanced from their perspective, or cases where the expected effect of stock options on the balance of a CCA would not be material. So, for example, if an analysis of the actions of particular independent enterprises showed that stock option costs were left out of the agreement because the aggregate value of the options granted to their respective employees were about the same, then it might also be appropriate for associated enterprises to leave the options out of account when the aggregate value of options granted to their respective employees were about the same (see 1.60-1.64 1995 TP Guidelines on intentional set offs). Where on the other hand the aggregate value of options granted to employees of one associated enterprise were materially different to aggregate value of options granted to the other associated enterprise, then it would not necessarily be appropriate to leave the stock options out of account.

Another possible reason that is often put forward is that unrelated parties would not be willing to account for stock options issued by each other because their value would be too unpredictable. This is potentially an issue when settlement is at exercise – depending on the facts and circumstances of each particular case – but it is not *necessarily* an argument against the inclusion of stock options *per se*. Employers may decide whether or not to issue employee stock options in the first place and potentially to assume the risks linked to the issue of stock options, based on considerations that relate both to their remuneration policy and to their internal appreciation of the evolution of the options and shares granted to their employees. The question of whether other companies participating in a CCA with the employer would be willing at arm's length to bear such risks is a different one and is a factual question that should be examined on a case by case basis. In the absence of strong factual evidence, it is difficult to respond to what unrelated parties actually do. It is only possible to hypothesise the behaviour that unrelated parties *would have adopted* in comparable economic circumstances.

Applying the arm's length principle to CCAs focuses primarily on expected benefits and recognises that participants' contributions may take various forms (*e.g.* in cash, or in kind). Therefore, an argument in support of taking into account employee stock option plans in the context of CCAs would be that an independent enterprise dealing at arm's length and behaving in a commercially rational manner would not enter into a CCA which failed to account for a significant element of the enterprise's contribution. In the above example (Section 4.1), Entity A would probably not enter into an arrangement in which it contributes all of the services in developing the intangible, where a significant part of the contributed compensation for such services is in the form of stock options, if Entity A received only 40% of the anticipated benefits from the arrangement (unless Entity B omitted an equally valuable element of its contribution).

Moreover, an independent party is unlikely to enter into a CCA that ignores valuable in-kind remuneration such as stock options. For example, assume that Entity A compensates its employees entirely in cash and Entity B compensates its employees only through stock options. In negotiating the CCA, the parties agree that their contributions will be valued on the basis of employees' remuneration and further agree on the value of the stock options provided by Entity B to its employees. In this case, independent parties would be expected to take into account the value of the stock options as failure to do so would ignore the contribution of Entity B, despite the fact that the parties agreed that those services were valuable. Of course, whether in-kind remuneration, including stock options, should be taken into account in any particular case depends on a determination of what independent parties acting at arm's length would do in the facts and circumstances of that case.

Finally, particular attention should be paid to cases where an employee's activity is only partially allocated to the CCA. The determination of what part of his or her stock options is to be allocated to the CCA may depend for instance on the criteria used to attribute the options, *e.g.* if the attribution of stock options is clearly linked to the success of a specific research program that falls within or outside the scope of the CCA (see paragraph 8.16 of the Guidelines on property or services that are used partly in the CCA's activity and also partly in the participant's separate business activities).

4.3. Where stock options are included in the valuation of participants' contributions to a CCA, what should the valuation principles be?

4.3.1. Costs or market value?

Where it is established that stock options should be recognised in CCAs, the next question to be addressed is how to value those stock options. Unsurprisingly many of the same issues that were discussed in Situation I are relevant here too: the diversity of accounting treatments, the extent to which dilutive plans represent a cost, etc.

Assuming it is established that employee stock options should be accounted for in a given CCA, key questions that arise are:

- Whether in the context of CCAs employee stock options should be accounted for at cost or fair value.
- What the measurement date should be.
- And how to determine the period to which stock options are allocated.

For the purpose of determining whether a CCA satisfies the arm's length principle it is necessary to measure the value or amount of each participant's contributions to the arrangement (paragraph 8.13 of the Guidelines). Under the arm's length principle, the value of each participant's contribution should be consistent with the value that independent enterprises would have assigned to that contribution in comparable circumstances (paragraph 8.14 of the Guidelines). The existing guidance in paragraph 8.15 of the TP Guidelines does not only refer to costs in order to measure the value of contributions to arm's length CCAs, but also recognises that market prices can be used:

> "No specific result can be provided for all situations, but rather the questions must be resolved on a case-by-case basis, consistent with the general operation of the arm's length principle. Countries have experience both with the use of costs and with the use of market prices for the purposes of measuring the value of contributions to arm's length CCAs. It is unlikely to be a straightforward matter to determine the relative value of each participant's contribution except where all contributions are made wholly in cash, for example, where the activity is being carried on by an external service provider and the costs are jointly funded by all participants."

In valuing the participants' contributions to the CCA, one could take an approach that does not require costs of services rendered by participants' employees (*i.e.* remuneration) to be measured. Such a valuation method would refer neither to remuneration itself nor to any specific component of remuneration, but rather to the market value of the employee services that are contributed.

In other instances, remuneration costs are relevant to value the participants' contributions to a CCA. The conclusion of the discussions in Situation I is that a charge for stock options might be appropriate and is not dependent on whether the plan was dilutive or non dilutive. With respect to CCAs, there are differing views. Some commentators argue that there is nothing in the 1995 TP Guidelines on CCAs to suggest radically different treatments of stock option plans depending on whether the plan is dilutive or non dilutive. On the contrary, the recognition in the Guidelines that, depending on precise facts, cost or market value may be more appropriate is consistent with the conclusion that if stock option plans must be accounted for in CCAs, the answer should be the same whether or not the plan is dilutive, and whether or not an actual cost is recorded in the financial accounts. Other commentators argue that the CCA Chapter in the Guidelines was not intended to address the issue of stock options, and that when an expense is not incurred, as in a dilutive plan, the opportunity cost should not automatically be assumed to be a contribution.

4.3.2. Measurement date

In theory, measurement date can be at grant date, at exercise date, or at any moment in between. Measurement date has an impact on valuation and should not be confused with the determination of the period over which stock options should be allocated (this latter question is discussed in sub-Section 4.3.3 below). The choice of the measurement date is linked with the risk allocation method and accordingly is one of the parameters that should be agreed upon by the participants to a CCA when entering into the arrangement (see paragraph 8.42 f) of the 1995 TP Guidelines).

In the example in Section 4.1 above, Entity A and Entity B could agree that valuation of their contributions to the CCA would include the grant date value of the stock options granted to Entity A's employees. This would mean that Entity B would not share in the subsequent risks of Entity's A stock options (in particular any increase or decrease in the value of the underlying shares). The main advantage of this approach is that it provides some certainty to Entity B (see argument described above with respect to *unpredictable* amounts when settlement is at exercise).

Another approach would be to share in the risk of the option in proportion to cost shares under the CCA. Applying this approach to the example in Section 4.1 above, Entity A and Entity B would agree at grant date to pay their appropriate proportionate shares of the spread between the stock price and the exercise price at exercise date (as well as associated administrative costs). Under this approach, it might be considered that this agreement, at grant date, to share in the spread at exercise date would be equivalent to an option contributed by Entity A to the CCA. Accordingly, the value contributed by Entity A at grant date could be determined by reference to the arm's length fair value of its stock options and it is the entry into the agreement itself at the grant date that would constitute the arm's length contribution to the CCA consistent with Article 9, notwithstanding the fact that actual payments from Entity A do not occur until exercise date. This approach also provides administrative convenience in two ways, *i.e.* first, there would be no need to value the option at grant date or at exercise date and second, the financial information required to settle the terms of the agreement under this alternative should be readily available (because it is the same information that the employees would need for verification that the option contract has been fulfilled).

Whether a particular allocation of risks (and accordingly measurement date) reflects an arm's length behaviour is a factual question and should be examined on a case-by-case basis.

An alternative view is that independent parties acting at arm's length would not have agreed to the risk allocation described above. According to this view, arm's length participants in a given CCA would not agree to share, at the outset (when the employee stock options plan is set up), a cost with an uncertain quantum while the associated risks that they would bear relate to input (labour) used by one member of the CCA. Under this view, the only valuation of the employee stock option for purposes of recognition in the context of a CCA that is consistent with the arm's length principle is that which occurs at the time stock options are granted to the employees of the CCA participant(s).

A second possible concern with this approach is its apparent artificiality, *i.e.* it may be regarded as involving the introduction of two self cancelling transactions: one from the (parent) participating entity charging the (subsidiary) participating entity the fair value for the options awarded, and the second a put option from the (subsidiary) participating entity to the parent, the effect of which (from the subsidiary company's perspective) is to exchange a known price over a known time scale for an unknown price over an unknown time frame.

Finally, a possible concern is that methods based on the spread do not produce arm's length results because they are based on the benefits that employees obtain.

4.3.3. Period to which stock options are allocated

As discussed in Section 2.1.1 above, the period to which stock options are to be allocated depends on the purpose of the particular stock option plan, and in the first instance should be documented and determined in accordance with this. As far as the period to which CCA contributions in the form of stock options are allocated, it should in principle be the period of activity remunerated by the stock options. As indicated in earlier discussions, such an approach appears to rule out the exercise date as the appropriate period in which to record the full cost of the options: options are never designed to reward employees for their services in the year of exercise, not least because at the date of grant the employer does not know which year the employee is going to exercise the options. Taking into account stock options at exercise date only would raise a number of difficult issues. First, this could mean a retroactive charge for services already consumed and even potentially relating to a period when the CCA was not yet in place. In addition, as described in Sub-section 2.1.1d) above, the need to account for risks linked to potential increase or decrease in share value would generally require that participants be in a position, at the date of grant, to measure the contributions to the CCA or to agree on possible risk minimisation techniques. Subsequently, stock options could for instance be treated as costs in the period of services to which they relate.

This question can be illustrated by looking for example at a CCA concluded for a three year period starting on 1 January 2003 and ending on 31 December 2005. We shall assume that stock options are included in the valuation of participants' contributions to a CCA where such participants contribute to the CCA through the activity of employees so remunerated (Section 4.2 above). First, we shall consider the case where one participant to the CCA has granted stock options on 29 December 2002 with a vesting date on 29 December 2005. If stock options are regarded as remuneration of employment services for the period from grant to vesting date, almost all the value of these stock options should be allocated to the CCA. On the other hand, if stock options are remuneration of employment services for a period prior to the grant, their value should not be allocated to the CCA at all. Second, let us take the case of another stock option plan implemented with a grant date 29 December 2005. Under this approach, if the second stock option plan is remunerating future services to be performed after the termination of the CCA agreement, it should not be accounted for in the valuation of the participant's contribution to the CCA. But if it is remuneration for employment services rendered prior to the grant *e.g.* during calendar year 2005, its value should be accounted for. These examples illustrate the importance of a proper identification of the period of employment services remunerated through the granting of stock options, as was discussed in sub-section C.1b)(iii).

Given the perceived complexity of a tracing approach in practice, another approach that could be adopted for administrative reasons would be to determine a single point in time at which stock options would generally be regarded as a contribution to a CCA. This point could be for instance vesting date or grant date. Under such a rule, stock options would for instance represent a contribution to the CCA if granted to an employee whose labour at the chosen point in time (*e.g.* vesting date, date of grant) is related to the activity covered by the CCA.

4.4. Interaction between treaty rules and domestic rules

According to paragraph 8.23 of the Guidelines,

"Contributions by a participant to a CCA should be treated for tax purposes in the same manner as would apply under the general rules of the tax system(s) applicable to that participant if the contributions were made outside a CCA to carry on the activity that is the subject of the CCA (*e.g.* to perform research and development, to obtain a beneficial interest in property needed to carry out the CCA activity). The character of the contribution, *e.g.* as a research and development expense, will depend on the nature of the activity being undertaken by the CCA and will determine how it is recognised for tax purposes. [...]"

Thus, where a participant to a CCA contributes by the activity of employees remunerated through stock options, said contribution should be treated for tax purposes in the same manner as would apply under the general rules of the tax system(s) applicable to that participant if it was offering stock options to employees performing similar activities outside the CCA.

4.5. Preliminary conclusion to Situation III

There is currently limited experience and evidence of what unrelated parties actually do with respect to stock options when determining the value of participants' contributions to a CCA. It is only possible to hypothesise what unrelated parties might be expected to do at arm's length. There are arguments to consider that if stock options are remuneration, independent enterprises dealing at arm's length would not enter into a CCA in which a significant element of employee compensation was omitted from the determination of the participants' contributions. Some commentators have argued against the inclusion of stock options in CCAs based on their view that independent parties do not and would not include stock options in valuing participants' contributions to a CCA.

If one accepts that stock options are to be taken into account in valuing participants' contributions to a CCA, there is still a fundamental difference between a cost-based approach and a market price approach to determine the value of a participant's contribution – both approaches are recognised by the Guidelines and this is an area where practices differ among OECD countries.

The period to which stock options should be allocated is of particular importance in the context of CCAs. In general, if stock options are regarded as remuneration for employment services rendered during the period starting at grant and finishing at vesting date, it follows that allocation to CCAs should consistently follow the same period. Allocation at a single point in time (*e.g.* grant or vesting date) may also be possible as an administrative convenience.

Notes

1. There may be other differences as well. For example, domestic tax rules with regard to transactions by a company in its own stock differ from jurisdiction to jurisdiction.
2. This is consistent with the conclusion reached from the perspective of employees' taxation and for the purposes of Article 15 of the MTC, see "Cross-border income tax issues arising from employee stock option plans": The Committee on Fiscal Affairs agreed that any benefit accruing in relation to the stock option up to the time when the option is exercised, sold or otherwise alienated should be treated as income from employment to which Article 15 applies.

3. In theory and notwithstanding legal or managerial restrictions, SUBCO could itself commit to provide these shares to employees who exercise their employee stock options by, for example, purchasing shares on market, without TOPCO's involvement.
4. Subject to possible characterisation as a capital contribution that is not discussed here.
5. A similar reasoning would apply in cases where the employees receiving options are involved in a service activity for third party clients of their employer.
6. A similar concern is expressed under 1.1.1b) Business strategies, and in section 1.1.2 when discussing possible transfer pricing methods and an approach based on SUBCO's perspective.
7. This list is intended to provide guidance on key information needed with respect to contractual terms. It is not an exhaustive list of all the documentation requirements of stock option arrangements for transfer pricing purposes.
8. To the extent that the purchased options do not perfectly hedge the stock option obligations, TOPCO would face an additional cost equal to the present discounted value of the future exercise price of such options minus the present discounted value of the contractual strike price to be received by TOPCO from SUBCO's employees from such options.
9. A similar difficulty arises in cases where an employee is employed by TOPCO when receiving the options and then moves to a subsidiary SUBCO before exercising the options.
10. Depending on the agreed pricing method, valuation date and allocation between TOPCO and SUBCO of the risks linked to a difference between actual exercise rate and anticipated exercise rate of options by SUBCO's employees.
11. Given that this action gives TOPCO the chief advantages of hedging strategies; namely protection against unpredictable and unquantifiable future cash flow calls, and a volatile profit profile. An alternative argument is that because from the perspective of TOPCOs shareholders, the effect on earnings is the same whether a dilutive or non dilutive plan was used, it follows that the implication for a dilutive plan is that there has been a group decision not to hedge.
12. This does not address cases where TOPCO does not charge SUBCO or charges less than the arm's length amount for the provision of a stock option plan to SUBCO's employees; nor does it address the case where the provision of the stock option plan is in the nature of a capital contribution by TOPCO to SUBCO.
13. It is assumed in the example that the choice of the cost plus method is consistent with the arm's length principle. Furthermore, it may be necessary to consider the extent to which the stock options represent remuneration for shareholder activity (see 1995 TP Guidelines 7.9) but this issue is not discussed here.
14. As stated in paragraph 2.34 of the 1995 TP Guidelines, "An uncontrolled transaction is comparable to a controlled transaction (*i.e.* it is a comparable uncontrolled transaction) for purposes of the cost plus method if one of two conditions is met: 1. none of the differences (if any) between the transactions being compared or between the enterprises undertaking those transactions materially affect the cost plus mark up in the open market; or 2. reasonably accurate adjustments can be made to eliminate the material effects of such differences."
15. Because employee stock options are most common in listed companies and in start-ups, it may be the case in practice that many truly independent comparables would not have significant employee stock option plans.
16. For instance, both IASB Exposure Draft and FASB Statement 123 require detailed information disclosure, which includes vesting conditions, detailed information on how the fair value was measured, option pricing models and inputs to the model, total expense recognized for the period, and details of plan.

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OECD Tax Policy Studies

The Taxation of Employee Stock Options

Employee stock option plans have become a common component of remuneration packages in multinational enterprises. This publication presents and examines the many important tax issues that arise for beneficiaries and companies.

Focusing first on domestic tax issues, it considers what tax treatment would provide no tax-related incentives for a company to either increase or cut the use of stock options, and would be neutral regarding the choice of either granting stock options or paying ordinary salary. The approach is non-prescriptive and serves to provide a benchmark for policymakers. This is complemented by a survey of taxation of stock options in OECD countries in 2002 that calculates the effective rate of tax and compares it with tax on ordinary salary.

Cross-border taxation issues are then discussed. Issues such as the timing of the benefits from stock options, the distinction between employment income and capital gains and the identification of the services to which they relate are relevant to the application of tax treaties, which are based on the *OECD Model Tax Convention*, and the resulting changes to the Model's Commentary are fully explained. Finally, the effects on transfer pricing are analysed in three circumstances: when an enterprise grants stock options to employees of a subsidiary in another country, when using transfer pricing methods that are affected by remuneration costs, and when employees benefiting from stock options are involved in activities that are the subject of a cost contribution arrangement.

This detailed study is essential reading for anyone seeking to understand the intricacies of taxation of stock options.

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