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Neutral Taxation of Shareholder Income

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Abstract

A Norwegian tax reform committee recently proposed a personal tax on the realized income from shares after deduction for an imputed risk-free rate of return. This paper describes the design of the proposed shareholder income tax and shows that it will be neutral with respect to investment and financing decisions and decisions to realize capital gains, provided that full loss offsets are granted. Thus the tax allows some non-distortionary double taxation of corporate equity income. With an appropriate choice of tax rates, it also solves the problem of income shifting under a dual income tax.

Keywords: tax neutrality, shareholder income tax, corporate-personal tax integration

JEL Code: H24, H25

1. A Tax Policy Dilemma

Under a pure comprehensive income tax the taxpayer faces the same marginal tax rate on all types of income, since the tax schedule is applied to the sum of his income from all sources. This feature of non-discrimination is often seen as the main virtue of the comprehensive income tax.

In practice, income from capital tends to be taxed at a lower rate than labour income in most OECD countries.[1] One reason is that social security taxes are usually levied only on labour income. Another reason is that governments have chosen to grant tax favours to important forms of capital income such as the imputed return on owner-occupied housing and the return to saving for retirement. Some countries also tax ordinary interest income at concessionary rates, and capital gains are rarely taxed at the high marginal rates applied to labour income, due to the distortionary lock-in effects of realization-based capital gains taxation.

At the same time the coexistence of the corporate and the personal income tax may potentially drive the total effective tax rate on corporate equity income significantly above the tax rate imposed on other forms of capital income. To prevent undue discrimination against corporate investment, most OECD governments therefore alleviate the double taxation of corporate equity income in one way or another, e.g., by granting dividend tax credits or by taxing dividends at a reduced rate at the shareholder level. However, while this reduces investment distortions, it also means that the labour income earned by corporate owner-managers is often taxed at a much lower rate than labour income earned outside the corporate sector.

Thus governments are faced with a dilemma. If they want to avoid tax discrimination against investment in the corporate sector, they must alleviate the double taxation of corporate equity income to bring the total tax on the return to corporate investment in line with the tax rate applied to other forms of capital income. But tax relief for dividends and capital gains on shares may open the door to tax avoidance via income shifting: if labour income is taxed more heavily than corporate equity income, controlling shareholders working in their own company may reduce their tax bill by transforming management wages into dividends or capital gains on shares.

This dilemma is particularly acute in countries which have introduced some form of *dual income tax* where income from capital is taxed at a low flat rate while progressive surtaxes are levied only on labour income. The dual income tax exists in its purest form in Norway, Sweden and Finland, but several other countries such as Austria, Belgium, France, Iceland, Italy, Japan and Portugal have moved in the direction of dual income taxation by introducing a separate flat tax on interest income at a rate considerably below the top marginal tax rate on labour income. In these countries any attempt to reduce the total tax burden on corporate equity to the level of the interest income tax would imply a huge tax saving for entrepreneurs who can transform labour income earned in the corporate sector into dividends or capital gains on shares.

In Norway a government-appointed expert committee recently proposed a way out of this dilemma (Skatteutvalget, 2003). The committee suggested a new system of shareholder income taxation which will ensure investment neutrality and yet prevent any significant gains from income shifting by corporate owner-managers. Although developed in a Norwegian context, the proposal is relevant for all countries experimenting with some form of dual income taxation, and even in countries which try to adhere to the principle of comprehensive income taxation, the dilemma described above will exist to the extent that social security taxes are only levied on labour income. Moreover, the proposed system of shareholder income taxation represents a new approach to the perennial problem of integrating the corporate and the personal income tax. Hence the Norwegian proposal should be of general interest to an international audience.

Against this background the present paper reviews and discusses the shareholder income tax proposed by the Norwegian tax reform committee. As a starting point, Part 2 briefly describes the Norwegian experience with the dual income tax. Part 3 lays out the basic principles of the proposed shareholder income tax, and Part 4 shows that this tax is neutral in several important dimensions. Part 5 discusses a number of administrative and design issues relating to the shareholder income tax, and Part 6 summarizes the main conclusions of the paper.

2. The Norwegian Dual Income Tax

2.1. The Norwegian Tax Reform of 1992

As already mentioned, several countries have recently moved towards some form of dual income taxation. In its purest form, the dual income tax is characterized by the following

features: (1) A flat uniform personal tax on all forms of capital income, levied at a rate equal to the corporate income tax rate; (2) Full relief for the double taxation of corporate equity income; (3) A broad tax base for capital income and corporate income, aiming to bring taxable income in line with true economic income, and (4) A basic tax rate on labour income equal to the capital income tax rate combined with a progressive surtax on high labour income.[2]

The case for this variant of schedular income taxation has been discussed at length by Sørensen (1994, 1998), Cnossen (1995, 2000), Nielsen and Sørensen (1997) and Boadway (2004). The arguments for the dual income tax include, among other things, the need to keep the capital income tax low in a small open economy faced with the possibility of capital flight; the advantages of aligning the personal capital income tax rate with the corporate tax rate to reduce investment distortions and to limit the scope for tax arbitrage, and the political economy observation that it is easier to preserve a broad and fairly neutral capital income tax base when the capital income tax rate is not too high.

The Norwegian tax reform of 1992 introduced the cleanest version of the dual income tax found so far. The reform was remarkable for its boldness and consistency. The corporate tax rate was almost cut in half, to a level of 28 percent, and a similar flat tax rate on personal capital income and on labour income below a certain threshold was introduced, combined with a two-bracket progressive surtax on high labour income. At the same time the tax base—in particular the business income tax base—was broadened very substantially. Various special tax credits and deductions were abolished, depreciation rates for tax purposes were brought much closer to prevailing estimates of true economic depreciation rates, and realized capital gains on business assets were included in the tax base.

Double taxation of dividends was fully relieved via an imputation system granting full credit for the underlying corporation tax against the personal tax on dividends. Reflecting the zeal with which Norwegian policy makers pursued the goal of tax neutrality, the 1992 tax reform also introduced an innovative method for alleviating the double taxation of retained corporate profits (the so-called RISK system): in calculating the taxable capital gain on shares, shareholders were allowed to step up the basis of their shares by an amount equal to the taxable corporate income retained in the corporation. Thus the capital gains tax was levied only on gains in excess of the retained profit which had already been taxed at the corporate level.[3]

Estimates of marginal effective tax rates indicated that the tax reform of 1992 led to a much more neutral system of capital income taxation, by eliminating tax subsidies to many types of investment with low pre-tax profitability. After 1992 the Norwegian economy experienced a significant rise in the average pre-tax rate of return on business investment and a rise in the private savings rate. In addition, there was a significant increase in corporate distributions, reflecting a higher degree of capital mobility within the corporate sector and between the corporate and the household sector. Although part of this development may have resulted from an upturn of the business cycle, there is little doubt that the tax reform of 1992 contributed to the improved allocation of capital in the Norwegian economy (see Skatteutvalget, 2003, chapter 3). However, the tax treatment of small enterprises under the dual income tax turned out to be a problem.

2.2. Taxing Income from Small Enterprises: The Achilles Heel of the Dual Income Tax

In small and medium-sized enterprises it is quite common that (some of) the owners work in their own firm, typically as managers. For these 'active' owners the income from the firm is partly a remuneration for their labour and partly a return to the capital they have invested in the enterprise. If capital income is taxed at a much lower (marginal) rate than labour income, active owners obviously have a tax incentive to label income from the firm as capital income rather than labour income, e.g., by transforming management wages into dividends or capital gains on shares. To prevent such tax avoidance, a dual income tax must include rules stipulating how the income from firms with active owners is to be split into capital income and labour income.[4]

Under the Norwegian dual income tax, income splitting is mandatory for entrepreneurs who carry out a certain minimum amount of work in their firm and who have an ownership share of at least two thirds in the firm. When calculating the ownership share, shares owned by closely related persons are added to the shares owned directly by the entrepreneur himself. For taxpayers satisfying the work test and the ownership test the taxable income from the firm is split into an imputed return on the business assets, which is taxed as capital income, and the residual profit, which is taxed as labour income. However, if the residual profit exceeds a certain cap, the excess amount is taxed as capital income (except for the professions such as doctors, lawyers etc.). The motivation for this rule is that if the residual profit is very high relative to a normal wage income, part of this profit is likely to represent a return to capital rather than a reward for labour. Furthermore, entrepreneurs with employees may deduct 20 percent of their wage bill from the residual profit subject to progressive taxation, up to a certain limit. The official rationale for this 'salary deduction' is that the estimated labour income for owners of firms with little physical investment and many employees would otherwise be unreasonably high, and that the deduction is meant to compensate for the fact that self-created goodwill is not included in the basis for calculating the imputed rate of return on capital. With a few modifications, the basis for calculating the imputed rate of return is the stock of business assets recorded in the firm's tax accounts. The rate of return is currently set equal to the interest rate on five year government bonds plus a risk premium of 4 percent. In 2003 the imputed rate of return was 10 percent.

The Norwegian rules for mandatory income splitting are applied to sole proprietorships, partnerships and corporations with active owners. The rules were meant to prevent tax avoidance through income shifting, but for corporate firms they seem to have had little success in achieving this goal. Between 1992 and 2000 the proportion of corporations subject to income splitting fell from 55 percent to 32 percent, indicating that a growing number of taxpayers were able to avoid income splitting by inviting 'passive' owners into the company. Moreover, in the late 1990s almost 80 percent of the 'active' shareholders subject to income splitting had a *negative* labour income for tax purposes, suggesting that the deductions from the estimated labour income were much too favourable.

Two trends in the 1990s contributed to the undermining of the Norwegian system of income splitting for active owners. Between 1992 and 2003 the wedge between the top marginal effective tax rate on labour income (including payroll tax and social security tax)

and the tax rate on capital income rose from 28.1 percentage points to 36.7 percentage points, increasing the incentive to transform labour income into capital income for tax purposes.[5] Moreover, in the decade following the tax reform the rules for income splitting were changed on several occasions, mostly in the direction of a more favourable tax treatment of active owners. At the turn of the new century it was therefore widely felt that the Norwegian income splitting system had failed to achieve its goal of securing an equal tax treatment of active owners and other groups of taxpayers. Reforming or replacing this system was thus an important part of the mandate for the tax reform committee established by the Norwegian government at the beginning of 2002 and releasing its report in February 2003.

3. The Shareholder Income Tax: Basic Principles

3.1. The Norwegian Tax Reform Committee of 2002

The Norwegian tax reform committee, headed by former Minister of Finance Arne Skauge, suggested a wide range of changes in the entire tax system, but this paper will focus on the committee's proposal for a new system of corporate-personal tax integration which was intended to solve the problem of double taxation of corporate source income as well as the problems of income splitting and income shifting under the dual income tax. In the remainder of this paper I will focus on these aspects of the committee report which involve the classical problem of integrating the corporate and the personal income tax. Before describing the proposal of the Skauge committee, it may be of interest to consider a couple of the alternatives which were analyzed but rejected by the committee.

3.1.1. Progressive Taxation of Personal Capital Income Since the need for splitting the income of active owners arises from the differential tax treatment of capital and labour, it might seem natural to give up the dual income tax and return to a comprehensive income tax where personal income from capital is taxed at the same marginal rate as labour income. The main reason why the Skauge committee did not recommend such a solution was the desire to keep the personal tax rate on capital income in line with the corporate tax rate. Because of the high international mobility of corporate investment and the difficulty of implementing residence-based taxation of corporate income, the committee found it undesirable to raise the Norwegian corporate income tax rate. Under a comprehensive income tax the marginal personal tax rate on capital income would therefore have to be much higher than the corporate tax rate, even if the top marginal personal tax rates were brought down considerably. Given the impracticality of accruals-based taxation of capital gains on shares, accumulation of retained profits within the corporate sector would then be favoured by the tax system, compared to saving and investment via the open capital market. This might cause capital to be locked into relatively unproductive investment projects in existing corporations, as was the case before the tax reform of 1992. In addition, even under moderate inflation, full progressive taxation of nominal capital income coupled with full interest deductibility would imply overtaxation of the real return to saving and would amplify the tax subsidies to homeownership in the likely case where a realistic rental value could not be imputed to homeowners. Finally, reintroducing progressive capital income taxation might open the

door to tax arbitrage exploiting differences in marginal tax rates across taxpayers. Hence the committee (except for one member) recommended to maintain the dual income tax.[6]

3.1.2. A Classical Corporate Tax System While the Norwegian income splitting system has failed to prevent tax avoidance by active shareholders, it has worked reasonably well for sole proprietorships where it is much more difficult to avoid mandatory income splitting via changes in the firm's ownership structure. One way of coping with income shifting might then be to maintain the splitting system for proprietors, and to impose a personal tax on dividends and capital gains on shares to ensure a total corporate and personal tax burden on shareholder income roughly equal to the top marginal tax rate on labour income. In this way active shareholders would not be able to reduce their tax bill by paying themselves shareholder income rather than managerial wages. Although such a system would involve an additional tax burden on shareholder income compared to other forms of capital income, this might not increase the cost of equity capital for Norwegian companies whose shares are traded in international stock markets, since the marginal shareholders in these companies are likely to be foreigners who are not subject to Norwegian personal tax rules. However, the Skauge committee was concerned that full double taxation of corporate equity income would distort investment in small and medium-sized Norwegian companies without access to the international stock market. The committee was aware that, in a small open economy where some shares are traded in the international stock market whereas others are not, a tax on personal shareholder income will not necessarily drive up the *average* required return on non-traded shares, as pointed out by Apel and Södersten (1999). But as shown in Sørensen (2004), a personal tax on the full return to shares will systematically distort the pattern of risk-taking by *raising* the required rate of return on non-traded shares whose returns are weakly correlated with the return on the market portfolio of shares, while *reducing* the required risk premium on non-traded shares whose returns are strongly correlated with the return on the market portfolio. Intuitively, for highly risky shares with a strong covariance with the market portfolio, the benefit from the income insurance offered by a symmetric tax on dividends and capital gains (with full loss offset) outweighs the fact that the tax reduces the average net rate of return relative to the net return on safe assets. In contrast, for shares with low riskiness the insurance effect of the tax is less important, so the tax makes the holding of such shares less attractive. A personal tax on the full return to shares will therefore tend to stimulate investment in small companies whose profits vary strongly with the business cycle, at the expense of investment in small companies with a low sensitivity to the cycle. The Skauge committee felt that it would be hard to preserve and promote the general principles of tax neutrality in other areas of the tax system if the committee proposed a form of double taxation of shareholder income which would systematically distort the pattern of investment in small and medium-sized companies. Hence the committee looked for a way of taxing corporate equity income which would be neutral while at the same time eliminating the scope for income shifting.

3.2. The Shareholder Income Tax: Basic Design

Having rejected the alternatives discussed above, the Norwegian tax reform committee proposed instead that the income splitting system for 'active' shareholders be replaced by a

personal tax on the *equity premium*, i.e., a personal tax on returns to shares in excess of the after-tax interest rate on government bonds.[7] According to the proposal, the equity premium is included in the shareholder's taxable capital income. The combination of corporation tax and personal capital income tax means that corporate equity income above the normal after-tax return to saving will be taxed at a total marginal rate which is roughly in line with the top marginal tax rate on labour income, given the tax schedule for labour income proposed by the committee. In principle this will eliminate the scope for income shifting by active shareholders.

The shareholder income tax is supposed to be levied on the equity premium on shares in Norwegian and foreign companies owned by personal taxpayers resident in Norway. The imputed return which is deducted from taxable shareholder income will be termed the Rate-of-Return-Allowance, denoted RRA. The tax is levied on the realized income from shares after deduction of the RRA. The realized income from a share consists of the dividend plus any realized capital gain minus any realized capital loss. According to the committee's proposal a realized loss on one share may be offset against gains on other shares, and any remaining loss may be carried forward with interest (see the detailed discussion of loss offsets in Section 5.4). The RRA is the product of the after-tax interest rate and the stepped-up basis of the share at the start of the year. The stepped-up basis is the sum of the original acquisition price of the share and all the RRAs on the share not utilized in previous years. If the RRA exceeds the realized income from the share in any given year, the unutilized part of the RRA is thus added to the basis of the share for the following year.

A simple numerical example may illustrate the workings of these rules and suggest why the shareholder income tax is neutral. We consider a shareholder who injects equity into a company at the start of year 1, receives a dividend at the end of year 1, and a dividend *or* a capital gain on the share at the end of year 2. The after-tax interest rate as well as the return to the company's investment after corporation tax are assumed to be 5%. We thus consider a corporate investment project which is just barely worth undertaking in the absence of the shareholder income tax. The example assumes that one krone retained in the corporation will ceteris paribus generate a one krone increase in the value of shares in the company, as long as the retained profit does not exceed the shareholder's tax free imputed return.[8] The transactions of the company and the shareholder are as follows:

	Year 1	
1.	Injection of equity at the start of the year	1000
2.	Profit after corporation tax (5% of 1.)	50
3.	Dividend	30
4.	Retained profit (2.−3.)	20
5.	RRA (5% of 1.)	50
6.	Unutilized RRA (5.−3.)	20
	Year 2	
7.	Stepped-up basis of share (1.+6.)	1020
8.	Profit after corporation tax (5% of (1.+4.))	51
9.	RRA (5% of 7.)	51
	Scenario 1: Shares are realized at the end of year 2	
10.	Revenue from sale of share at the end of year 2 (1.+4.+8.)	1071

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11. Stepped-up basis of share at the start of year 2 (=7.)	1020
12. RRA for year 2 (=9.)	51
13. Taxable capital gain (10.−11.−12.)	0
Scenario 2: All profits are distributed at the end of year 2	
14. Dividend at the end of year 2 (4.+8.)	71
15. Total RRA (6.+9.)	71
16. Taxable dividend (14.−15.)	0

Whether the shareholder's return takes the form of dividends or capital gains, we see that he will end up with zero taxable income in both scenarios. This suggests that a corporate investment which is marginal in the absence of the shareholder income tax will still be marginal in the presence of the tax, i.e., the shareholder tax will leave the cost of corporate capital unaffected. In particular, note that the step-up of the shareholder's basis ensures that a marginal corporate investment financed by retained profits is shielded from tax at the shareholder level. Via the step-up of basis, an RRA which is not utilized in the current year is effectively carried forward at an interest rate equal to the imputed normal return on the stepped-up basis. A corporate investment project financed by retentions and yielding a normal rate of return will be shielded from shareholder tax through this carry-forward mechanism.

4. The Neutrality of the Shareholder Income Tax

While the above numerical example is suggestive, it does not constitute a formal proof that the shareholder income tax is neutral. In this part of the paper we will prove that the tax is in fact neutral with respect to investment, financing and realization decisions and that this neutrality holds even in the presence of uncertainty, provided that full loss offsets are granted. In order to build intuition we will start by showing that the shareholder income tax is equivalent to a cash flow tax which is known to be neutral. For expositional convenience, this part of the analysis will abstract from uncertainty. Subsequently we will show that the neutrality properties of the tax extend to an environment with uncertainty. Although the shareholder income tax is supposed to be introduced in a context where corporate equity income and interest income are already subject to ordinary tax (at the same rate), we do not explicitly consider the corporate income tax and the capital income tax on interest income, since we wish to highlight the isolated effect of the shareholder income tax.

4.1. The Equivalence to a Cash Flow Tax

At least since the days of Brown (1948) it has been well-known that a cash flow tax is neutral provided the tax rate is constant over time. If we can prove that the shareholder income tax is equivalent to a cash flow tax, it follows that the shareholder income tax is also neutral. We will therefore compare the present value of the tax burden incurred under a cash flow tax to the present value of the shareholder income tax. If the two are equal, the two tax systems are equivalent in a world with perfect capital markets.

Consider a share which is acquired at the price A_o at the end of period zero and which is sold at the end of period s at the price M_s. At the end of each time period t the asset

pays a dividend D_t. Under a cash flow tax the taxpayer gets a deduction for the initial cost of acquiring the share but must pay tax on all of the subsequent (cash) dividends and on the revenue from the sale of the share. Let i denote the after-tax market rate of interest (which we hold constant to simplify the exposition). If τ is the (constant) cash flow tax rate, the present value of the tax liability under a cash flow tax (PVT^c) at the time the share is acquired is

$$PVT^c = \tau\left[\frac{M_s}{(1+i)^s} + \sum_{t=1}^{s}\frac{D_t}{(1+i)^t} - A_o\right] \tag{1}$$

Under the shareholder income tax there is no initial deduction for the purchase price of the share, but in each subsequent period the taxpayer is only liable to tax on the amount $D_t - i\,B_{t-1}$, where B_{t-1} is the basis of the share for tax purposes at the end of period $t-1$, and $i\,B_{t-1}$ is the Rate-of-Return-Allowance for period t. Suppose initially that $D_t \geq i\,B_{t-1}$ throughout the holding period. We then have $B_{t-1} = A_o$ for all $t \in [1, s]$, that is, there will be no step-up of basis during the holding period since there will be no unutilized RRAs to carry forward from one year to the next. Hence the present value of the tax liability under the shareholder income tax (PVT^s) is given by

$$PVT^s = \tau\left[\frac{M_s - A_o}{(1+i)^s} + \sum_{t=1}^{s}\frac{D_t - i\,A_o}{(1+i)^t}\right] \tag{2}$$

where $M_s - A_o$ is the taxable capital gain realized at the end of period s. Equation (2) may be rewritten as

$$\begin{aligned} PVT^s &= \tau\left[\frac{M_s}{(1+i)^s} + \sum_{t=1}^{s}\frac{D_t}{(1+i)^t} - A_o \cdot PVA\right], \\ PVA &\equiv \frac{1}{(1+i)^s} + X, \qquad X \equiv \frac{1}{1+i} + \frac{1}{(1+i)^2} + \cdots + \frac{1}{(1+i)^s} \end{aligned} \tag{3}$$

Since $X = 1 - [1/(1+i)^s]$, it follows that $PVA = 1$. Thus we see from (1) and (3) that $PVT^s = PVT^c$, so the shareholder income tax is indeed equivalent to a neutral cash flow tax under the assumption that $D_t \geq i\,B_{t-1}$.

Suppose instead that $D_t < i\,B_{t-1}$ during the holding period so that in each period t the shareholder has an unutilized RRA equal to $i\,B_{t-1} - D_t$ which may be added to the basis of the share for the subsequent period. We then have

Basis at the end of period 0: $B_o = A_o$

Basis at the end of period 1: $B_1 = B_o + i\,B_o - D_1 = (1+i)A_o - D_1$

Basis at the end of period 2: $B_2 = B_1 + i\,B_1 - D_2 = (1+i)^2 A_o - (1+i)D_1 - D_2$

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Basis at the end of period s: $B_s = (1+i)^s A_o - (1+i)^{s-1} D_1 - (1+i)^{s-2} D_2 - \cdots - D_s$

Since the shareholder does not earn any taxable dividend during the holding period, he only pays tax on the capital gain $M_s - B_s$ realized at the time the share is sold. Using the expressions for B_t given above, the present value of the tax liability in the case where $D_t < i\,B_{t-1}$ becomes

$$PVT^s = \tau\left(\frac{M_s - B_s}{(1+i)^s}\right) = \tau\left[\frac{M_s}{(1+i)^s} - A_o + \sum_{t=1}^{s}\frac{D_t}{(1+i)^t}\right] \tag{4}$$

We see that (4) is identical to (1), so once again we find that the shareholder income tax is equivalent to a cash flow tax which is known to be neutral. The explanation for this equivalence result is that the present value of the deductions allowed under the shareholder income tax (represented by the term $A_o \cdot PVA$ in equation (3)) is equal to the initial purchase price of the share and that both tax systems include the same positive cash flows (dividends and the revenue from realizations) in the tax base.

4.2. Holding Period Neutrality

Although it follows implicitly from the equivalence result above, it may be useful to demonstrate explicitly that even though capital gains are taxed only upon realization, the shareholder income tax does not create the distortionary lock-in effect generated by a conventional realization-based capital gains tax. To see this, note that if a shareholder realizes an accumulated capital gain $M_t - B_t$ in period t, his tax liability T_t for that period will be

$$T_t = \tau(M_t - B_t) \tag{5}$$

If the realization is postponed until period $t+1$, and assuming for simplicity that no dividends are paid in any of the two periods, the tax liability for period $t+1$ under the shareholder income tax will be

$$T_{t+1} = \tau[M_{t+1} - (1+i)B_t] \tag{6}$$

since the basis of the share is stepped up by the amount $i\,B_t$ between periods t and $t+1$, due to the unutilized RRA for period t. From (5) and (6) we find that

$$\begin{aligned} T_{t+1} - T_t &= \tau\left[\left(\frac{M_{t+1} - M_t}{M_t}\right)M_t - i\,B_t\right] \\ &= \tau\left[\left(\frac{M_{t+1} - M_t}{M_t} - i\right)M_t + i\big(M_t - B_t\big)\right] \\ &= \tau\left(\frac{M_{t+1} - M_t}{M_t} - i\right)M_t + i\,T_t \qquad \Longleftrightarrow \\ T_{t+1} &= (1+i)T_t + \tau\left(\frac{M_{t+1} - M_t}{M_t} - i\right)M_t \end{aligned} \tag{7}$$

Equation (7) shows that the shareholder income tax leaves no advantage from deferring the capital gains tax by postponing the realization from one period to the next. The reason is that the postponed tax liability from the previous period is carried forward with interest,

as reflected in the presence of the term $(1 + i)\, T_t$ on the right-hand side of (7). Because of this property, the shareholder income tax will neither encourage nor discourage the realization of shares. Like the retrospective capital gains tax proposed by Auerbach (1991) and the generalized cash flow taxes invented by Bradford (1995) and Auerbach and Bradford (2004), the shareholder income tax is neutral towards realization decisions even though tax is due only when assets are realized.[9] The rate-of-return allowance is essential for this neutrality property.

4.3. Neutrality of the Shareholder Income Tax Under Uncertainty

The analysis above abstracted from uncertainty and risk aversion. In an uncertain economic environment with risk averse investors, the neutrality properties of the shareholder income tax will depend crucially on the tax treatment of losses. To ensure full neutrality, the Skauge committee proposed a *symmetric* treatment of gains and losses on shares. Just as the shareholder is liable to tax on the excess of his realized return over the after-tax interest rate on government bonds (the RRA), he should be allowed to record a loss for tax purposes if his realized income from shares falls short of his opportunity cost, given by the RRA. Thus the difference between the RRA and the realized return should either be deductible against other current income, or the shareholder should be allowed to carry his 'loss' forward with interest to preserve the present value of the loss offset.

This section will show that under popular assumptions regarding the valuation of risky cash flows, a shareholder income tax with full loss offset will be neutral towards real investment and financing decisions. Following Bond and Devereux (1995, 2003), we consider a corporate investment project unfolding over three periods. At the end of period 0, the corporation invests an amount K_o in real assets and incurs an amount of debt B to finance part of the acquisition of the assets, with the remainder being financed by injection of equity from the shareholders. During period 1 the firm earns revenue $\tilde{R}_1$ (where the tilde indicates that the revenue is uncertain) and is obliged to repay its debt with interest r at the end of the period. If $\tilde{R}_1 \geq (1 + r)B$ the firm is able to distribute a dividend $\tilde{R}_1 - (1 + r)B$ to its shareholders at the end of period 1. If $\tilde{R}_1 < (1 + r)B$ the firm goes bankrupt, the shareholders receive nothing and the creditors take over the firm and sell it to some new owner(s). If the firm avoids bankruptcy it earns an uncertain revenue $\tilde{R}_2$ during period 2 and winds up at the end of period 2 at which time it sells its assets at the uncertain price $\tilde{K}_2$, distributing the amount $\tilde{R}_2 + \tilde{K}_2$ to shareholders. Let $\tilde{b}$ denote an uncertain dummy variable which assumes the value 1 in case the firm goes bankrupt and zero otherwise. Furthermore, let $V_t[\tilde{Z}_t]$ be an operator that converts the uncertain payment $\tilde{Z}_t$ received in period t into its certainty-equivalent present value at time 0. In the *absence* of any shareholder income tax, the net present value of the project to the shareholders may then be written as

$$NPV^* = -(K_o - B) + V_1[(1 - \tilde{b})(\tilde{R}_1 - (1 + r)B)] + V_2[(1 - \tilde{b})(\tilde{R}_2 + \tilde{K}_2)] \qquad (8)$$

Like Fane (1987) and Bond and Devereux (1995, 2003), we will make the popular assumption that the value function $V_t[\tilde{Z}_t]$ has the property of value additivity.[10] For two

stochastic payoffs, $\tilde{X}$ and $\tilde{Y}$, and for two non-stochastic constants α and β, we then have

$$V_t[\alpha\tilde{X}_t + \beta\tilde{Y}_t] = \alpha V_t[\tilde{X}_t] + \beta V_t[\tilde{Y}_t] \tag{9}$$

Furthermore, as argued by Bond and Devereux (op.cit.), in a perfect capital market the market value of the distribution of possible returns from lending must equal the value of the loan. As we explain below, the (risky) interest rate r charged by the creditors of the corporation must therefore satisfy the no-arbitrage condition

$$\begin{aligned} B &= V_1[(1-\tilde{b})(1+r)B + \tilde{b}\tilde{R}_1] + V_1\big[\tilde{b}V_2^1[\tilde{R}_2 + \tilde{K}_2]\big] \\ &= V_1[(1-\tilde{b})(1+r)B + \tilde{b}\tilde{R}_1] + V_2[\tilde{b}(\tilde{R}_2 + \tilde{K}_2)] \end{aligned} \tag{10}$$

The right-hand side of the first equality in (10) is the certainty-equivalent present value of the payments received by the lenders. Thus, if the firm goes bankrupt ($\tilde{b} = 1$), the creditors take over and receive the revenue $\tilde{R}_1$ accruing to the firm at the end of period 1. Right afterwards, the creditors then sell the shares in the firm at the market price $V_2^1[\tilde{R}_2 + \tilde{K}_2]$, where $V_2^1[\tilde{X}_2]$ is the certainty-equivalent value at the end of period 1 of the payoff $\tilde{X}$ received at the end of period 2.[11] This explains the last term on the right-hand side of the first equality in (10). To derive the second equality we use the facts that $\tilde{b}$ is known at the end of period 1 and that $V_2[\tilde{X}_2] = V_1\big[V_2^1[\tilde{X}_2]\big]$ (investors are indifferent between receiving the uncertain payoff $\tilde{X}_2$ in period 2 or the certain payoff $V_2^1[\tilde{X}_2]$ in period 1, so these payoffs must have the same value in period 0). Inserting (10) into (8) and using the property of value-additivity, we find that

$$NPV^* = -K_o + V_1[\tilde{R}_1] + V_2[(\tilde{R}_2 + \tilde{K}_2)] \tag{11}$$

We see that the debt terms have dropped out of (11), reflecting the Modigliani-Miller proposition that the value of the firm is independent of the gearing ratio (provided $\tilde{R}_t$ and $\tilde{K}_2$ do not depend on the level of debt). Note that $\tilde{R}_1$ may be measured as the revenue net of any period 1 investment financed out of that period's retained earnings, so the theory embodied in (11) also allows for investment finance via retentions.

We will now show that under the shareholder income tax the net present value of the investment project (NPV) will be given by

$$NPV = (1-\tau)NPV^* \tag{12}$$

When (12) holds, any real investment project and its associated pattern of finance which is worth implementing in the absence of the shareholder income tax will still be worthwhile in the presence of the tax, and vice versa. Thus the tax will be neutral.

We start by showing that the new shareholders in the firm who purchase the shares from the creditors in case the firm goes bankrupt will pay no shareholder income tax in certainty-equivalent terms in case they acquire the shares at the price $V_2^1\left[\tilde{R}_2 + \tilde{K}_2\right]$. With such an acquisition price the new shareholders would face the following uncertain tax liability $\tilde{T}_2^n$ at the end of period 2 when the firm is wound up:

$$\tilde{T}_2^n = \tau\left\{\tilde{R}_2 + \tilde{K}_2 - (1+i_2)V_2^1[\tilde{R}_2 + \tilde{K}_2]\right\} \tag{13}$$

The term $\tilde{R}_2 + \tilde{K}_2$ is the dividend received at the end of period 2, including the revenue from the sale of the firm's assets. The variable i_2 is the risk-free rate of interest in period 2

(known from the start of the period), and $V_2^1[\tilde{R}_2 + \tilde{K}_2]$ is the basis value of the shares. Thus $(1 + i_2)V_2^1[\tilde{R}_2 + \tilde{K}_2]$ is the total deduction under the shareholder income tax, consisting of the Rate-of-Return-Allowance plus the deduction for the basis, since the value of the shares drops to zero when the firm is wound up, imposing a capital loss on the owners. Taking present values at time 1 on both sides of (13) and using value-additivity, we get

$$V_2^1\left[\tilde{T}_2^n\right] = \tau V_2^1[\tilde{R}_2 + \tilde{K}_2] - \tau V_2^1[(1 + i_2)V_2^1[\tilde{R}_2 + \tilde{K}_2]] = 0 \tag{14}$$

where the last equality follows from the fact that $V_2^1[\tilde{X}_2] = V_2^1[(1+i_2)V_2^1[\tilde{X}_2]]$ (investors are indifferent between the uncertain payoff $\tilde{X}_2$ in period 2 or the certain payoff $(1 + i_2)V_2^1[\tilde{X}_2]$ in period 2, so these payoffs must have the same value in period 1). When he buys the shares in the new company at the end of period 1, the new owner thus faces a tax liability with a zero present value. This explains why the market price of the shares at the end of period 1 is unaffected by the shareholder income tax. The assumption of full loss offset is important for this result: if the expression on the right-hand side of (13) turns out to be negative ex post, the taxpayer must be granted a corresponding tax rebate (or the right to indefinite loss carry forward with interest).

Given the result in (14), we may henceforth focus on the taxes paid by the original shareholders which are given as follows:

$$\tilde{T}_1 = \tau(1 - \tilde{b})[\tilde{R}_1 - (1 + r)B - i_1(K_o - B)] - \tau\tilde{b}(1 + i_1)(K_o - B) \tag{15}$$

$$\tilde{T}_2 = \tau(1 - \tilde{b})[\tilde{R}_2 + \tilde{K}_2 - (1 + \tilde{i}_2)(K_o - B)] \tag{16}$$

where i_1 is the risk-free interest rate in period 1, $i_1(K_o - B)$ is the shareholder's RRA in period 1 in case the firm avoids bankruptcy, and $(1+\tilde{i}_2)(K_o - B)$ is the RRA for period 2 plus the deduction for the original basis when the firm is wound up.[12] The term $\tau\tilde{b}(1+i_1)(K_o - B)$ is the tax relief granted to the shareholder at the end of period 1 if the firm goes bankrupt and the shareholder loses the initial equity $K_o - B$ injected in the firm. Note that in this case the shareholder still gets a deduction for his opportunity cost of finance $i_1(K_o - B)$ plus a deduction for his capital loss.

The value of the project under the shareholder income tax is

$$\begin{aligned} NPV = &-(K_o - B) + V_1[(1 - \tilde{b})(\tilde{R}_1 - (1 + r)B - \tilde{T}_1)] + V_2[(1 - \tilde{b}) \\ &\times (\tilde{R}_2 + \tilde{K}_2 - \tilde{T}_2)] \end{aligned} \tag{17}$$

Inserting (15) and (16) into (17) and using the properties of the value function, we show in the appendix that one ends up with

$$\begin{aligned} NPV = (1 - \tau)\{&-(K_o - B) + V_1[(1 - \tilde{b})(\tilde{R}_1 - (1 + r)B)] + V_2[(1 - \tilde{b}) \\ &\times (\tilde{R}_2 + \tilde{K}_2)]\} \end{aligned} \tag{18}$$

The no-arbitrage condition (10) continues to hold and may therefore be substituted into (18) to give (using value-additivity once again)

$$NPV = (1 - \tau)\{-K_o + V_1[\tilde{R}_1] + V_2[(\tilde{R}_2 + \tilde{K}_2)]\} = (1 - \tau)NPV^* \tag{19}$$

which was the neutrality result we wanted to prove.

Exploiting the properties of the value function, one can also show that the neutrality of the shareholder income tax towards the decision to realize a capital gain continues to hold

when one allows for uncertainty. Furthermore, it can be shown that the tax is also neutral towards the decision to wind up the firm.

4.4. Distortions to the Choice of Organizational Form?

Since the shareholder income tax can only deal with the problem of income shifting in the *corporate* sector, it is necessary to maintain the income splitting system for sole proprietorships and partnerships under the Norwegian dual income tax. One may ask whether the different tax treatment of corporate and non-corporate firms will distort the choice of organizational form? Under certain restrictive assumptions, the answer is "no". Specifically, if there are no credit constraints and no risk, and if the total effective tax rate on the labour income of active shareholders equals the effective tax rate on labour income earned by proprietors, the tax system proposed by the Skauge committee will be neutral between the two groups.

This may be illustrated by a simple example. Consider an entrepreneur who invests one unit of capital in his firm. Suppose that this business capital yields a pre-tax return equal to the pre-tax market interest rate r and that the entrepreneur's work effort in the firm generates additional (business) income w. Assume further that all of the after-tax business income is retained in the firm in year 1, and that the entrepreneur sells the firm at the end of period 2. If he organizes his firm as a proprietorship, his imputed capital income under the income splitting system will be r times the stock of business capital at the start of the period. This imputed return will be taxed as capital income at the rate t, while the remaining business income will be taxed as labour income at the rate t^l. Denoting the after-tax interest rate by $i \equiv r(1-t)$, the situation for the proprietor may then be summarized as follows, assuming that the value of the firm at the end of year 2 equals the assets accumulated in the firm at that time:

Scenario 1: The firm is organized as a proprietorship

Year 1

1. Initial capital stock: 1
2. Business income before tax: $r + w$
3. Tax bill: $tr + t^l w$
4. Retained after-tax business income (2.−3.): $i + w(1 - t^l)$

Year 2

5. Initial capital stock (1.+4.): $1 + i + w(1 - t^l)$
6. Business income before tax ($r \times$(5.)$+w$): $r[1 + i + w(1 - t^l)] + w$
7. Tax bill: $tr[1 + i + w(1 - t^l)] + \tau w$
8. Retained after-tax business income (6.−7.): $(1 + i)[i + w(1 - t^l)]$
9. Revenue from sale of firm (5.+8.): $(1 + i)^2 + (2 + i)w(1 - t^l)$

Suppose alternatively that the firm is organized as a corporation, and assume (in accordance with the Skauge committee's proposal) that the corporate tax rate and the tax rate on

shareholder income are both equal to the capital income tax rate t. Since no shareholder income is realized in year 1, and since the entrepreneur sells his share at the end of year 2 at a price equal to the value of the assets accumulated in the firm, his situation will be the following, given that the Rate-of-Return Allowance imputed to the shares equals the after-tax interest rate i:

Scenario 2: The firm is organized as a corporation
Year 1

10. Initial capital stock = initial basis of shares: 1
11. Business income before tax: $r + w$
12. Corporate income tax bill: $t(r + w)$
13. Retained after-tax business income (11.-12.): $i + w(1 - t)$

Year 2

14. Initial capital stock (10.+13.): $1 + i + w(1 - t)$
15. Basis of shares at the start of the year: $1 + i$
16. Business income before tax ($r \times$ (14.) $+ w$): $r[1 + i + w(1 - t)] + w$
17. Corporate income tax: $t\{r[1 + i + w(1 - t)] + w\}$
18. Retained after-tax business income (16. $-$17.): $(1 + i)[i + w(1 - t)]$
19. Capital stock at the end of the year = revenue from sale of shares (14. $+$18.): $(1+i)^2 + (2 + i)w(1 - t)$
20. Basis of shares at the end of the year: $(1 + i)^2$
21. Shareholder income tax ($t \times$(19. $-$20.)): $t(2 + i)w(1 - t)$
22. Net revenue from sale of shares (19. $-$21.): $(1 + i)^2 + (2 + i)w(1 - t)^2$

Comparing the net revenues in lines 9. and 22., we see that the entrepreneur will be equally well of under the two organizational forms if $(1 - t)^2 = 1 - t^l$. As the reader may easily verify, this is equivalent to the condition

$$t + t(1 - t) = t^l \tag{20}$$

The magnitude on the left-hand side of (20) is the sum of the corporate tax and the shareholder income tax on labour income earned within a corporation. If this is equal to the tax rate t^l on the imputed labour income of proprietors, the tax system will be neutral towards the choice of organizational form. Given the tax rates proposed by the Skauge committee, condition (20) will be roughly met. Note from lines 3. and 12. that since $t < t^l$ under the dual income tax, the proprietor's tax bill is *front-loaded* relative to the tax bill of the owner of a corporation. More generally, the timing of tax payments will differ under the two organizational forms. Hence the tax neutrality result only holds in the absence of liquidity constraints.

But even if there are no credit constraints, the neutrality result breaks down once we allow for risk. When business income fluctuates, the average effective tax rate t^l on the proprietor's imputed labour income will vary with the level of income, due to the progressive tax schedule. By contrast, under the corporate organizational form the entrepreneur can engage in averaging of taxable income by appropriate timing of the realization of his shareholder

income, thereby exploiting the rate-of-return allowance to the greatest possible extent. Since the proprietor has no similar opportunity for income averaging, he will tend to have a higher average tax rate over time than the active shareholder, even if (20) is met in a 'normal' year. Under risk neutrality the proposed tax system will thus tend to favour the corporate form of organization. With risk aversion the situation becomes more complex, since entrepreneurs must then trade off the additional income insurance offered by the proprietor's progressive tax schedule against the higher average burden of taxation imposed on proprietors relative to active shareholders.

Except in unrealistic circumstances, we see that the combination of the shareholder income tax and the income splitting system for proprietorships will tend to distort the choice of organizational form. As a long run measure, the Skauge committee therefore proposed to replace the income splitting system for proprietors and partnerships by tax rules closely resembling the rules for corporate firms. According to the committee's suggestions, the imputed return to business assets will still be taxed as capital income, but the residual business income will be taxed as labour income only to the extent that it is distributed from the firm to the owner. Thus residual business income retained in non-corporate firms will only be taxed at the corporate tax rate.[13] Via the timing of retained profits, the owners of non-corporate firms will then be able to engage in income averaging in the same way as active shareholders.

4.5. The Shareholder Income Tax Versus Other Forms of Neutral Capital Income Taxation

The shareholder income tax is based on the familiar idea that a capital income tax which allows a deduction for the opportunity cost of finance will be neutral. It is well known that a corporate income tax which allows corporations a full deduction for true economic depreciation and for the cost of finance leaves the user cost of capital unchanged (see King, 1975), for example). In a context without uncertainty, Boadway and Bruce (1984) showed that this neutrality result also holds when depreciation for tax purposes deviates from true economic depreciation, provided corporations are allowed to deduct an imputed market rate of interest on the remaining book value of the assets recorded in their tax accounts. In that case the current tax saving from accelerated depreciation will be exactly offset by a fall in future rate-of-return allowances of equal present value, so the timing of depreciation allowances will have no effect on the cost of capital.

The Boadway-Bruce neutrality result provided the intellectual foundation for the socalled ACE system (Allowance for Corporate Equity) proposed by the Capital Taxes Group of the Institute for Fiscal Studies (1991) and by Devereux and Freeman (1991). Under this system corporations may deduct an imputed rate of return on their equity along with their interest expenses. The ACE system was actually implemented in Croatia from 1994 to the beginning of 2001 (see Rose and Wiswesser, 1998; Keen and King, 2001), and two government committees recently proposed the ACE as a model for taxing the rents earned in the petroleum sectors in Denmark and Norway (see Lund, 2002a).

While Boadway and Bruce (1984) abstracted from risk, the contributions by Fane (1987) and Bond and Devereux (1995, 2003) showed that the Boadway-Bruce neutrality result

carries over to a setting with uncertainty. A main point made in these contributions is that even though other corporate cash flows are risky, the allowance for corporate equity should be equal to the risk-free rate of interest, provided the deduction is perfectly certain (see also Lund, 2002b). This is a parallel to the result derived above that a shareholder income tax with an RRA equal to the risk-free interest rate will ensure investment neutrality.[14]

While previous writers have proposed that a rate-of-return allowance be granted at the *corporate* level based on the asset values recorded in corporate tax accounts, a distinguishing feature of the shareholder income tax suggested in this paper is that the RRA is granted at the level of *domestic personal shareholders,* based on the (stepped-up) value of their shareholdings. There are two separate policy choices involved here. The most fundamental choice is whether to offer the allowance to corporations or to shareholders. If the allowance is granted to shareholders, the second choice is whether the basis for the allowance should be the book value of corporate assets or the value of the shares.

The Skauge committee was aware that a rate-of-return allowance to Norwegian residents will not significantly affect the cost of equity finance for widely held companies whose shares are traded internationally, but as mentioned in Section 3.1 it felt that an allowance is needed to avoid distortions to the cost of equity finance for small and medium-sized companies without access to the international stock market. Moreover, a corporation tax with an ACE allowance is a source-based tax on above-normal profits which will raise the relative tax burden on the most profitable companies, as Bond (2000) has pointed out. In open economies a tax on supernormal profits will affect the international location decisions of multinational companies earning mobile rents. The analysis in this paper suggests that this distortion may be avoided if the deduction for an imputed return on equity is instead granted at the *shareholder* level. Furthermore, for Norwegian subsidiaries of parent companies headquartered in countries offering a foreign tax credit for corporate taxes paid in Norway, a corporate rate-of-return allowance would not stimulate the incentive to invest in Norway but would just transfer revenue from the Norwegian to the foreign governments. More generally, since many shares in Norwegian-based companies are owned by tax-exempt institutional investors and by foreigners, an RRA at the corporate level would lose a lot more revenue than an allowance granted only to Norwegian personal shareholders. Recouping this additional revenue would require higher direct or indirect taxes on labour. Of course, tax exemption for the normal return to corporate investment would stimulate investment in Norway, and this would tend to compensate workers by driving up pre-tax real wages. However, since physical capital is less than perfectly mobile internationally, and given the existence of foreign tax credits mentioned above, this compensating mechanism would take a long time to work itself out and would hardly be perfect.

The Skauge committee therefore came down in favour of double tax relief at the shareholder level. When the allowance is granted to shareholders rather than to corporations, it seems most natural to calculate it on the basis of share values rather than imputing a proportion of the value of corporate assets to each individual shareholder. To be sure, the latter procedure would have the advantage of offsetting the distortions to investment decisions implied by deviations between true economic depreciation and depreciation for tax

purposes, as Boadway and Bruce (1984) pointed out. On the other hand, the assets recorded in corporate tax accounts often do not include the firm's intangible assets, whereas the value of intangibles will be reflected in the shareholder's acquisition price when he buys a share. The recorded acquisition prices of shares thus provide a broader and potentially more neutral basis for calculating the RRA. Moreover, if double tax relief were based on corporate book values, it would be very difficult to require foreign companies to provide the information on asset values necessary for calculating the RRAs for Norwegian holders of foreign shares. In practice the rate-of-return allowance would then only be granted to holders of domestic shares, but this might violate Norway's international obligation not to impose tax obstacles on the free flow of capital between Norway and the EU. By contrast, it should be easier for Norwegian taxpayers to document the acquisition price of their foreign shares for the purpose of obtaining the RRA.

5. Implementing the Shareholder Income Tax

We have seen that, from a theoretical perspective, the shareholder income tax has many desirable neutrality properties. In this final part of the paper we will discuss some practical issues relating to the implementation of the tax.

5.1. Administering the Shareholder Income Tax

The shareholder income tax requires that separate accounts must be kept for each of the taxpayers' shares in each company. For such a system to be manageable, it must be based on a central shareholder register recording the acquisition and sale of shares and the payment of dividends by companies. With such a register the tax liability on each share may be calculated on a computerized basis. From the start of 2004 a shareholder register was in fact established in Norway, recording shareholdings and share values based on information reported by Norwegian companies and shareholders.

In principle, the shareholder income tax utilizes the very same information on dividends, acquisition prices and realized sales prices which is needed to implement a conventional income tax on dividends and on realized capital gains on shares. However, under a conventional capital gains tax the tax authorities do not need to verify the basis value of the share until the time it is realized. Since many unquoted shares are never traded, this reduces the need for checking the basis value of shares. Under the shareholder income tax the basis value of the share must be determined already when it is acquired, and the basis must be stepped up every year in case of unutilized rate-of-return allowances. In practice tax administrators will therefore have to process more information under the shareholder income tax than under the existing capital gains tax. On the other hand, it is probably easier to document and verify the acquisition price of a share at the time of purchase than when it is subsequently realized.

Under the current Norwegian tax system retained corporate profits are imputed to shareholders and added to the basis of their shares in proportion to the size of their shareholdings. With the introduction of the shareholder income tax, this so-called RISK system can be abolished along with the existing Norwegian imputation system for dividend taxation. The

complicated income splitting system for 'active' shareholders may likewise be scrapped. On balance it is therefore quite conceivable that the shareholder income tax will save administrative resources in the Norwegian context.

5.2. The Scope of the Shareholder Income Tax: Quoted Versus Unquoted Shares and Debt Versus Equity

The shareholder income tax is supposed to be levied on the equity premium on all shares owned by personal shareholders residing in Norway. It might be argued that quoted shares could be exempt from the tax since the problems of income shifting which the shareholder income tax is supposed to address mainly exists in smaller companies whose shares are typically unquoted. However, such a difference in tax rules might distort the decision of companies to go public. More importantly, the attraction of the shareholder income tax is that it raises revenue (since the equity premium is on average positive) in a non-distortionary manner. Exempting quoted shares from the tax would imply a significant revenue loss and necessitate heavier reliance on other distortionary taxes.[15]

The shareholder income tax implies that returns to shares above the going market interest rate will be subject to double taxation, whereas interest on debt will only be taxed once at the ordinary capital income tax rate. This asymmetry might induce companies to distribute their earnings in the form of interest on debt rather than in the form of equity income. Subordinated debt is often a close substitute for equity, and interest on such debt typically includes a substantial risk premium. Hence it may be possible to avoid the shareholder income tax by paying out above-normal rates of return in the form of interest on loans from shareholders to the company.

To discourage substitution of single-taxed debt for double-taxed equity, the Skauge committee therefore proposed that whenever the interest rate on a loan from a personal taxpayer to a company exceeds an appropriate rate-of-return allowance (say, the interest rate on long term government bonds), the excess interest income should be subject to the shareholder income tax. Interestingly, with this amendment the shareholder income tax becomes reminiscent of the so-called shareholder tax on firms and lenders proposed by Bond and Devereux (2003, pp. 1293–1302). Under the Bond-Devereux scheme corporations are allowed to deduct their interest payments as well as a risk free rate of return on their equity, and lenders to companies are taxed on that part of their interest income which exceeds the risk free interest rate. The Bond-Devereux shareholder tax thus amounts to a tax on the above-normal return to debt as well as equity while the normal return is left free of tax. The shareholder income tax proposed in the present paper also falls on returns above normal, but it is assumed to be introduced in a context where normal returns have already been subject to ordinary tax (in Norway corporate equity income and personal interest income are both taxed at the same rate of 28%).[16] Moreover, the Skauge committee did not propose to tax the risk premium included in the interest on securities traded in organized markets, since such securities are unlikely to be issued with the purpose of transforming high-taxed labour income into low-taxed interest income.

5.3. The Treatment of Foreign Shares and Corporate Shareholders: New Loopholes?

The shareholder income tax is a residence-based personal tax on the income from foreign as well as domestic shares. In principle the tax thus ensures equal treatment of foreign and domestic investment. Yet it is generally acknowledged that residence-based capital income taxes are hard to enforce, since it is difficult for domestic tax authorities to monitor foreign-source income. Despite this well-known weakness of a residence-based tax, the Skauge committee nevertheless recommended that the rate-of-return allowance be granted at the personal rather than at the corporate level, for the reasons given in Section 4.5. One may note that the incentive to evade the shareholder income tax is reduced by the existence of the rate-of-return allowance combined with the crediting of foreign withholding taxes against domestic personal tax. Given these two elements of the tax code, the gain from evasion will often be limited. At any rate the RRA will reduce the incentive for international tax evasion compared to current Norwegian tax law which only offers imputation credits and capital gains tax relief (under the RISK system) for income from companies based in Norway.

In principle the shareholder income tax could be applied to corporate as well as to personal shareholders. However, this would imply that dividends distributed through a chain of subsidiaries in a corporate conglomerate would attract multiple layers of tax, since each distribution would be subject to shareholder income tax. Realizations of capital gains stemming from improved earnings (prospects) in a subsidiary of a conglomerate could likewise attract multiple layers of tax. As pointed out by the Skauge committee, the shareholder income tax might therefore distort the organizational pattern of corporations if it were imposed on corporate as well as personal shareholders. For this reason the Norwegian government—in its follow-up on the Skauge committee's report—has proposed to exempt corporate shareholders from the shareholder income tax. This exemption is supposed to apply to income from foreign as well as domestic shares, except shares in companies located in certain low-tax countries outside the EU. Thus the shareholder income tax will be levied only when corporate earnings are distributed from the corporate sector to (or when capital gains on shares are realized by) a personal shareholder residing in Norway.

These rules provide an incentive for Norwegian shareholders to accumulate earnings within a Norwegian corporation free of shareholder income tax and then move abroad to a low-tax country before selling the shares, thereby realizing a capital gain which will escape Norwegian tax. Technically this incentive could be eliminated by treating the giving up of Norwegian residency as a realization of shares which triggers Norwegian capital gains tax. It should also be mentioned that current Norwegian tax law implies liability to Norwegian capital gains tax for a period of 5 years after the taxpayer has left the country.

5.4. Loss Offsets: Theory Meets Reality

The neutrality of the shareholder income tax relies on the symmetry of the tax: whenever the realized rate of return r_A on some share A falls short of the risk-free after-tax interest rate, the shareholder is entitled to a deduction with a present value equal to $i - r_A$ times the stepped-up basis of the share, where i is the risk-free interest rate. The Skauge committee

did indeed propose loss offset rules and rules for carry forward to ensure that deductions for tax losses (including 'losses' stemming from unutilized rate-of-return allowances) preserve their present value and that the taxpayer will always obtain full loss offset provided he earns positive taxable income from shares at some point in the future. However, under the proposed rules a taxpayer who never receives positive future shareholder income in excess of the RRA will not be compensated for tax losses stemming from unutilized RRAs. In the eyes of the committee, one has to live with this asymmetry in order to protect the Norwegian tax base. To compensate for this (mild) limitation on loss offsets, the Skauge committee suggested that the RRA should be set equal to the after-tax interest rate on five-year government bonds which normally includes a modest risk premium compared to the risk-free short term interest rate.

One problem raised by the shareholder income tax is the assignment of RRAs when shares are traded during the fiscal year. Ideally, the RRA associated with a share should be allocated to the different owners in proportion to the fraction of the year during which they have owned the share. However, administratively this would be very burdensome in the case of quoted shares which may be traded several times during the year. In its follow-up on the Skauge report, the Norwegian government has therefore proposed that all of the RRA is assigned to the person who owns the share at the end of the year. This should cause no problems if all shareholders were subject to the tax: the value of the tax rebate stemming from the RRA would then tend to be capitalized in the stock price, and the tax saving for the new owner would tend to be offset by the additional tax to be paid by the previous owner who loses the deduction for the RRA. However, this symmetry and capitalization effect cannot always be relied upon, since some shares will be owned by corporate or foreign shareholders who are not liable to Norwegian shareholder income tax. If unutilized RRAs from realized shares are fully deductible against other income, a Norwegian personal taxpayer could then purchase a share from a tax exempt investor right before New Year and sell it again at the same price right after New Year. This would leave the taxpayer with an unutilized RRA which could be used to shield other taxable income.

To prevent this kind of tax avoidance the Norwegian government has argued for more restrictive loss offset rules than those suggested by the Skauge committee. Specifically, the government has proposed that unutilized RRAs from realized shares cannot be deducted against other income and cannot be carried forward. This is clearly a significant limitation on loss offsets which destroys the full symmetry of the shareholder income tax. However, if it is necessary for practical reasons to assign all of the RRA to the holder of the share at the end of the year, it is difficult to see how tax avoidance through year-end trading can be prevented without introducing some limitation on loss offsets. In practice, the need to trade off administrative costs against the ideal of tax symmetry is therefore likely to spoil some of the nice theoretical neutrality properties of the shareholder income tax.[17]

6. Summary and Conclusions

This paper has analyzed a Norwegian proposal for a residence-based tax on the equity premium on shares owned by personal shareholders. This shareholder income tax would

fall on dividends and realized capital gains exceeding a risk-free imputed return on the basis value of the share. The basis of the share would be the acquisition price plus accumulated unutilized rate-of-return allowances from previous years.

With an appropriate choice of tax rates, such a tax would eliminate the possibility for 'active' shareholders to transform high-taxed labour income into low-taxed capital income under the Nordic dual income tax. The analysis also showed that provided full loss offsets are granted, the shareholder income tax is neutral with respect to investment and financing decisions and with respect to decisions to realize a capital gain or loss. Under standard assumptions regarding the valuation of shares, these neutrality properties hold even under uncertainty, despite the fact that taxpayers are only allowed to deduct the risk-free rate of return. Indeed, the analysis showed that the shareholder income tax is equivalent to a cash flow tax which is known to be neutral.

However, administrative considerations and the need to constrain tax avoidance are likely to necessitate some limitations on loss offsets. In practice it will therefore be difficult to achieve full neutrality of the shareholder income tax.

Appendix

To prove the result stated in (18), we start by inserting (15) and (16) into (17) and using the property of value additivity to get

$$\begin{aligned} NPV = {} & (1-\tau)\{V_1[(1-\tilde{b})(\tilde{R}_1-(1+r)B)] + V_2[(1-\tilde{b})(\tilde{R}_2+\tilde{K}_2)]\} \\ & + \tau\{V_1[\tilde{b}(K_o-B)] + V_1[i_1(K_o-B)] + V_2[(1-\tilde{b})(1+\tilde{i}_2)(K_o-B)]\} \\ & - (K_o-B) \end{aligned} \tag{A.1}$$

The properties of the value function imply that

$$V_1[i_1(K_o-B)] = \frac{i_1(K_o-B)}{1+i_1} \tag{A.2}$$

$$V_1[\tilde{b}(K_o-B)] = V_2[\tilde{b}(1+\tilde{i}_2)(K_o-B)] \tag{A.3}$$

Equation (A.2) follows from the fact that $i_1(K_o-B)$ is a certain income flow, while (A.3) follows from the property that $X = V_2^1[X(1+i_2)]$ which implies $V_1[\tilde{X}] = V_1[V_2^1[\tilde{X}(1+\tilde{i}_2)]] = V_2[\tilde{X}(1+\tilde{i}_2)]$. Using value additivity along with (A.2) and (A.3) in (A.1), the reader may easily verify that one ends up with (18).

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Notes

1. Combining OECD Revenue Statistics and National Accounts, Carey and Rabesona (2002) estimate average effective tax rates on capital income and labour income. They find that in many countries preferential tax arrangements for household capital income significantly reduce the overall effective tax rate on income from capital while increasing the estimated effective tax rate on labour income.
2. The Nordic countries also include most social security transfers in the base for the progressive surtax.
3. Andersson et al. (1998) provide more details on the ambitious business tax reforms in Norway and the other Nordic countries in the early 1990s.
4. While this paper focuses on Norway, Hagen and Sørensen (1998) and Lindhe, Södersten and Öberg (2004) offer a comparative analysis of the taxation of firms with active owners in the various Nordic countries.
5. The empirical study by Fjærli and Lund (2001) indicates that the desire to minimize tax bills has had a strong effect on the form in which active owners of Norwegian corporations have chosen to take out cash from the firm.
6. However, for certain forms of interest income the committee did in fact propose an element of tax progressivity, as we shall explain in Section 5.2.
7. The proposed shareholder income tax is in fact rather similar to the current $Swedish$ tax rules for holders of shares in companies which are not listed on the stock exchange. However, because the Swedish tax rules favour unquoted companies relative to quoted companies they are non-neutral towards real investment incentives, in contrast to the proposal described in this paper. See Sørensen (2004) for an analysis of the Swedish rules compared to the rules proposed for Norway.
8. This is reasonable: as long as retentions do not trigger any current capital gains tax and do not generate any future dividend tax at the time of distribution, there will be no tax capitalization effects on share values.
9. Indeed, as Alan Auerbach has pointed out to me, the shareholder income tax may be seen as a special case of the generalized cash flow tax proposed by Bradford (1995) and elaborated in Auerbach and Bradford (2004).
10. Value additivity is satisfied in many well-known asset pricing models, including the Capital Asset Pricing Model, the Arbitrage Pricing Theory and option valuation models. Intuitively, value additivity means that if a single company has two separate risky activities, the total value of these activities will be the same if they are carried out by two separate companies.
11. Rather than selling the (shares in the) firm, the creditors might alternatively decide to run the firm themselves. In that case the neutrality of the shareholder income tax requires that the basis value imputed to the new shareholders (i.e., to the creditors who take over) is set equal to the present value of the future earnings of the firm, $V_2^1[\tilde{R}_2 + \tilde{K}_2]$. In practice the tax authorities may not have the information needed to undertake a correct assessment of this value, so in this case perfect neutrality cannot be achieved.
12. Note that although i_2 is the risk-free interest rate for period 2, it appears with a tilde superscript in (16) since it is not known with certainty ex ante.
13. In Denmark and Sweden similar tax rules for proprietors already exist.
14. In a model of a closed economy with well diversified consumers, Gordon (1985) also finds that a capital income tax which exempts the risk free rate of return will be neutral, provided tax revenues are transferred back to taxpayers in a lump sum manner.
15. If the revenue from the symmetric tax on the equity premium is returned to the private sector in the form of lump sum transfers, the economy's general equilibrium will be unaffected when the private sector's risk pooling is efficient, as shown in the contribution by Gordon (1985) mentioned in the previous footnote. This suggests that if the revenue from the shareholder income tax (which we have seen to be neutral in a partial equilibrium context) is instead used to reduce preexisting distortionary taxes, it must be possible to reap an efficiency gain.
16. The ordinary tax on corporate income and capital income will of course have distortionary effects, but the point made here is that adding the shareholder income tax will not imply any additional distortions.

17. At the time of writing, the Norwegian government is planning to introduce the shareholder income tax from the start of 2006. The specific design of the tax will depend on the outcome of the final negotiations in the Norwegian parliament.

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