5. Fundamental reform of taxes on capital income in the Netherlands

Bas Jacobs

In the Netherlands, the tax treatment of capital income influences the allocation of capital and risk-taking, resulting in deadweight losses, tax arbitrage, and financial fragility. Moreover, the tax treatment of capital income implies that income redistribution is not achieved at lowest social costs. Fundamental reform of the taxation of capital income in the Netherlands can generate substantial efficiency and equity gains, while reducing financial fragility. This chapter proposes a uniform tax treatment of all capital income from savings, portfolio investments, pensions, owner-occupied housing and business-ownership with a uniform, flat-rate tax on all capital incomes. The efficiency of the mix of Dutch taxes is increased by shifting the tax burden from labour to capital income as much as possible in a distribution-neutral way. The debt bias should be removed in the entire tax system.

- The Dutch tax regime on capital distorts the allocation of capital, risk and labour, and does not redistribute income in the most efficient way.
- All capital income from savings, portfolio investments, pensions, owner-occupied housing and business-ownership should be taxed under a single flat-rate tax.
- The tax burden can be shifted in a distribution-neutral way from labour income to capital income.

5.1 Introduction

For many years, fundamental tax reform has been the subject of discussion in the Netherlands. During the last decade, the Study Committee Tax System (Studiecommissie Belastingstelsel, 2010), the Committee Income Tax and Allowances (Commissie Inkomstenbelasting en Toeslagen, 2013), the State Secretary of Finance (Wiebes, 2014, 2015) and the Sustainable Growth Study Group (Studiegroep Duurzame Groei, 2016) have only recommended incremental adjustments to the tax regime for capital income. In 2019, the State Secretary of Finance (Snel, 2019) announced that he was aiming to gather ‘building blocks’ for fundamental tax reform during the current cabinet period of the Rutte III government.

The last fundamental tax reform dates back to 2001. Then, the so-called ‘box system’ was introduced by the State Secretary of Finance, Willem Vermeend. The box system is a hybrid dual income tax, where capital income and labour income are taxed separately. Labour income – including the earnings (labour and capital income) of the self-employed, income from owner-occupied housing and pension incomes – is taxed at progressive rates in ‘box 1’.1 Income from

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1 In 2020, the tax on labour income formally has two brackets with rates of 37.35% and 49.5%. However, the tax schedule in fact contains three brackets, as the general tax credit of 2,711 euros is phased out with taxable income
owner-occupied housing and pensions is seen as labour income and is also taxed in box 1. Dividends and capital gains on ‘substantial share-ownerships’ in non-listed companies are taxed in ‘box 2’. Income from all other assets is imputed and taxed at a rate of 30%, under what is euphemistically called the presumptive capital income tax (PCIT) in ‘box 3’. Originally, the aim of the PCIT was to tax the normal return on assets, which was assumed at 4% until 2017. Since its introduction in the Tax Reform 2001, the PCIT has been a thorn in the eyes of prominent economists and tax specialists. The PCIT in box 3 is simply a wealth tax, because tax liabilities are solely dependent on the wealth of taxpayers and not on the capital income they earn. Since 2017, the wealth tax in box 3 has been made progressive with a three-bracket schedule.

The Dutch wealth tax in box 3 is an international fiscal oddity. Nowhere in the OECD are interest income, dividends and capital gains completely exempt from taxation at the personal level (Harding and Marten, 2018). Moreover, in its defence in various law suits that have been filed over the years by tax payers currently earning small or even nil returns on their risk-free assets, the Dutch government is putting up more and more smoke screens in order to justify the high presumptive return on risk-free assets (FD, 2018).

Moreover, the Great Recession (2008–2015) made it abundantly clear that the Dutch economy is financially fragile as a result of the high leverage of households, firms and banks. The tax system plays a major role in promoting leverage (‘debt bias’) by allowing for the deductibility of mortgage interest in the personal income tax (PIT) and costs of debt in the corporate income tax (CIT), see also IMF (2016). In addition, the Dutch tax system heavily subsidizes the accrual of illiquid pension wealth. Dutch workers or pensioners do not have direct access to their pension entitlements, as pension wealth is stored in collective pension funds that are managed by representatives of employees’ and employers’ organizations.

Taxation of capital income in the Netherlands exhibits neither economic consistency nor economic logic. Effective tax rates on capital income are very low, which is mainly because of the generous tax facilities for owner-occupied housing and pensions. Moreover, capital income from saving, portfolio investment, owner-occupied housing, business-ownership and pensions is taxed in very different ways. As a result, the tax system distorts the allocation of capital and risk in the Dutch economy. Furthermore, business cycles in the Dutch economy have become more volatile due to high financial leverage.

Against this backdrop, this chapter proposes a fundamental tax reform of the entire tax regime on capital income and wealth in the Netherlands. A dual income tax system is advocated with a progressive tax schedule on labour income and a flat rate on all real (not presumptive) capital income from savings, portfolio investment, pensions, owner-occupied housing and business income. Capital income should preferably be taxed uniformly across all assets at a flat rate. Moreover, all capital gains should be taxed either on a realization basis for illiquid assets or on an accrual basis for liquid assets. Double taxation of capital income via the CIT and PIT should be avoided. The tax mix can be made more efficient by shifting the tax burden from labour after 20,711 euros at a flat rate of 5.672%, until it becomes zero at a taxable income of 68,507 euros, which is the starting point of the top bracket. Hence, the Netherlands effectively has a three bracket schedule on labour income with a rate of 37.35% until a taxable income of 20,711 euros, a rate of 43.02% until taxable income of 68,507 euros and a rate of 49.5% above that income.

Substantial share-ownership refers to an equity stake of 5% or more in total shares of a closely held firm. Typically, the director and main shareholder of the company are taxed in box 2.

See, for example, the contributions in Cnossen (1999) and Cnossen and Bovenberg (2001). On the initiative of Sijbren Cnossen, all but two Dutch professors with relevant expertise in the economics of taxation and tax law subscribed to an open letter sent in 1999 to members of parliament opposing the introduction of the new box system.
income to capital income, mainly by abolishing the overly generous tax concessions for owner-occupied housing and pensions, but also by closing down various loopholes in the tax regime for director-shareholders of closely held companies in box 2. In addition, taxes on inheritance and property can be raised. Finally, the entire Dutch tax system should be cleaned of debt biases. Taxes on labour income can then be cut with approximately 10 percentage points in all tax brackets.

5.2 Taxation of capital income in the Netherlands

Capital income is lightly taxed in the Netherlands, and also from an international perspective. The implicit tax rate on capital income (14.4%) is among the lowest of all European Union (EU) countries (along with Norway) for which data are available (see Figure 5.1).

Figure 5.1. Implicit tax rate capital income (2016) and revenue share of taxes on capital (2017)

Notes: The implicit tax on capital is the ratio of tax revenue of all taxes on capital to total capital income. EU averages are GDP-weighted averages of the member states included in the graph.
Source: See the Appendix

The implicit tax rate provides a rough estimate of the total effective tax burden on capital as a fraction of the total capital tax base. The GDP-weighted EU average of the implicit tax rate on capital income of all countries shown is 31.6%. The share of capital taxes in total tax revenue in the Netherlands is 19.3%. This is lower than the EU average of 21.9%. Some Eastern European countries and the Baltic States have a substantially lower share of capital taxes in total revenue. The implicit tax rate on capital income in the Netherlands has fallen sharply in recent years. In 2016, it was 5.3 percentage points lower than it was in 1995 (European Commission, 2018).
Table 5.1 breaks down total tax revenue on capital income by various asset classes. The total revenue from taxes on capital income and wealth in the Netherlands in 2018 amounts to approximately 31 billion euros (4.0% of GDP). Revenue from capital taxes is relatively low mainly as a result of the subsidies on owner-occupied housing and pension savings, which are jointly subsidized by more than 13 billion euros (this estimate does not take into account revenue losses from exempting owner-occupied housing and pensions from the wealth tax in box 3, only the revenue losses in box 1).

### Table 5.1. Taxes on capital income in the Netherlands (2018)

<table>
<thead>
<tr>
<th>Base</th>
<th>Revenue (billion euros)</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box 1: owner-occupied housing (mortgage interest deduction – tax on imputed rent)</td>
<td>–7.0</td>
<td>36.55 – 51.95%, imputed rent: 0.7%/2.35% property value</td>
</tr>
<tr>
<td>Box 1: pensions (taxes on pension benefits – tax deductions of pension contributions)</td>
<td>–6.5</td>
<td>36.55 – 51.95%</td>
</tr>
<tr>
<td>Box 2: substantial ownerships closely held businesses</td>
<td>2.4</td>
<td>25%</td>
</tr>
<tr>
<td>Box 3: saving and portfolio investment</td>
<td>4.4</td>
<td>0.6051–1.614%</td>
</tr>
<tr>
<td>Inheritance and gift tax</td>
<td>2.3</td>
<td>10–40%</td>
</tr>
<tr>
<td>Corporate income tax</td>
<td>23.0</td>
<td>20–25%</td>
</tr>
<tr>
<td>Dividend withholding tax</td>
<td>3.4</td>
<td>15%</td>
</tr>
<tr>
<td>Transactions tax on property</td>
<td>2.7</td>
<td>2% – 6%</td>
</tr>
<tr>
<td>Local property tax</td>
<td>4.0</td>
<td>variable, av. 0.118% (owner-occupied housing), 0.274% (owner non-housing), 0.2043% (user non-housing)</td>
</tr>
<tr>
<td>Landlord levy on public social housing companies</td>
<td>1.7</td>
<td>0.591% property value</td>
</tr>
<tr>
<td>Banking tax</td>
<td>0.5</td>
<td>0.044%/0.022% over short-term/long-term debts</td>
</tr>
<tr>
<td>Total (billion euros)</td>
<td>30.9</td>
<td></td>
</tr>
<tr>
<td>Total (percentage of GDP)</td>
<td>4.0</td>
<td></td>
</tr>
</tbody>
</table>

Sources: See the Appendix.

Moreover, the total revenue from taxes on capital income and wealth is biased upwards for two reasons. First, in a small open economy, such as the Netherlands, the CIT is, to a large extent, shifted to labour (Jacobs, 2015; Fuest, Peichl and Siegloch, 2018). Second, the property transactions tax, the local property tax and the landlord levy are all included in the total revenue from taxing capital. Some of these levies can be considered as benefit taxes for locally provided public goods that raise property values.

The tax treatment of capital income shows neither economic consistency nor economic logic. Private assets – excluding owner-occupied housing, pension wealth and assets from non-listed

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4 The definitions of capital income in Figure 5.1 and Table 5.1 differ because of, among other things, the inclusion of taxes on cars in the EU definition of taxes on capital income.
businesses – are taxed under the progressive wealth tax in box 3, but capital income from interest and dividends are exempted from PIT. Income from owner-occupied housing is treated as labour income under the progressive tax schedule in box 1, where imputed rent is taxed and mortgage rent is deductible. However, the revenue loss from the deduction for mortgage interest is much larger than the revenue gain of taxing imputed rent. As a result, owner-occupied housing is not progressively taxed, but regressively subsidized. Ownership of second houses is taxed under the wealth tax in box 3. Pensions are considered (deferred) labour income and taxed at reduced rates under the progressive labour tax schedule in box 1. Pension contributions are tax-deductible at a tax rate that is, on average, 17 percentage points higher than the tax rate at which pension benefits are taxed (CPB, 2010). Capital gains on portfolio investments and home-ownership at the personal level and capital gains on assets in pension funds are not taxed. Non-incorporated businesses, typically small and medium-sized enterprises (SMEs), file tax under the progressive tax in box 1, where a profit exemption of 14% is applied to business income after the standard business deduction. Hence, the effective top rate on business income of unincorporated firms in box 1 equals 44.7% in 2018. Incorporated businesses file tax under the CIT. Dividends and capital gains on business assets of listed and non-listed firms are taxed under the CIT and the PIT. Dividend distributions are subject to a dividend withholding tax, which shareholders can credit against their PIT liability. Distributed dividends and capital gains on shares (if sold) of dominant shareholders in closely held companies are taxed at a flat rate of 25% in box 2. This implies that the combined rate of the CIT and PIT on dividends and capital gains in non-listed firms equals 43.8%. The transfer of wealth is taxed under the gift and inheritance tax, but family-business succession facilities subsidize the transfer of business assets (not shown in Table 5.1).

With this patchwork of different tax regimes for different sources of capital (income), the government distorts the efficient allocation of capital and risk in the Dutch economy. See also Table 5.2, which shows the asset allocation of the Netherlands. Households mainly accumulate wealth through owner-occupied housing and pension funds, with a joint value of 343% of GDP in 2017. This is hardly surprising, as both assets are heavily subsidized via the tax system. Dutch mortgage debt is a staggering 96% of GDP. As a result, the Netherlands has the highest household debt in the entire OECD after Denmark: household debt stands at 243% of net disposable household income (OECD, 2019).

The tax system discriminates against finance with equity or retained earnings as a result of interest deductibility in the CIT (‘debt bias’). Excessive debt financing distorts the optimal allocation of capital and risk as it promotes tax-driven increases in financial leverage of households and firms, especially in financial institutions, and it renders the Dutch economy financially fragile. Moreover, because of the tax facilities for owner-occupied housing, household portfolio decisions are distorted due to excessive exposure of households to housing-market risk. The massive amount of accumulated pension wealth is entirely illiquid, which causes liquidity constraints and amplifies the business cycle; households under financial distress (e.g. as a result of declines in house prices) cannot access their (pension) wealth.

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5 More recent estimates of this tax differential are unavailable.
Table 5.2. Asset composition of the Netherlands (2017)

<table>
<thead>
<tr>
<th>Category</th>
<th>Billion euros</th>
<th>Percentage of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial assets</td>
<td>427.9</td>
<td>58</td>
</tr>
<tr>
<td>Net assets of owner-occupied housing</td>
<td>491.4</td>
<td>67</td>
</tr>
<tr>
<td>Gross value of owner-occupied housing</td>
<td>1,199.4</td>
<td>163</td>
</tr>
<tr>
<td>Value of mortgage debt</td>
<td>−708.0</td>
<td>−96</td>
</tr>
<tr>
<td>Other real estate</td>
<td>161.8</td>
<td>22</td>
</tr>
<tr>
<td>Other property</td>
<td>38.2</td>
<td>5</td>
</tr>
<tr>
<td>Business assets</td>
<td>65.0</td>
<td>9</td>
</tr>
<tr>
<td>Business assets substantial ownerships</td>
<td>190.3</td>
<td>26</td>
</tr>
<tr>
<td>Debts (except mortgages)</td>
<td>−115.1</td>
<td>−16</td>
</tr>
<tr>
<td>Pension wealth&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1328</td>
<td>180</td>
</tr>
<tr>
<td>Net government wealth&lt;sup&gt;b&lt;/sup&gt;</td>
<td>199.0</td>
<td>27</td>
</tr>
<tr>
<td>Gross public assets</td>
<td>728.0</td>
<td>99</td>
</tr>
<tr>
<td>Gross public debt</td>
<td>−529.0</td>
<td>−72</td>
</tr>
<tr>
<td>Total wealth</td>
<td>2,786.5</td>
<td>378</td>
</tr>
</tbody>
</table>

Source: All data are taken from Statistics Netherlands (2019b) unless indicated otherwise. <sup>a</sup> Data 2017, fourth quarter, De Nederlandsche Bank (2019). <sup>b</sup> Data 2016, Statistics Netherlands (2019c).

Finally, a plethora of capital tax bases and rates opens doors for tax arbitrage. Different types of assets can be transformed into another to avoid taxation, for example, through various vehicles for pensions or company loans in box 2 where director-shareholders of closely held businesses are taxed.<sup>6</sup> Moreover, the capital–labour split for director-shareholders in box 2 is difficult to enforce. The tax treatment of closely held companies in box 2 invites tax arbitrage from labour income (taxed in box 1) to profits (taxed in box 2), because the combined rate of the corporate tax and box 2 (43.75%) is lower than the top rate on labour income in box 1 (49.5%).<sup>7</sup> Director-shareholders therefore have strong financial incentives to reduce their labour earnings to the minimum presumed labour earnings of 46,000 euros.<sup>8</sup> There are no strong incentives to change the legal form from unincorporated to incorporated businesses, however.

Finally, the transactions tax on property transactions does not have a good economic rationale, but causes considerable welfare losses due to lower mobility in the housing and labour market (van Ewijk et al., 2006; van Ewijk and Lejour, 2020).

Low taxes on capital income and wealth imply that – for given total tax revenue – the tax burden is shifted to labour via taxes on labour income and on consumption. In particular, if owner-occupied housing and pensions were to be taxed as personal savings and portfolio investment (i.e. both housing and pensions are taxed in box 3 rather than in box 1), while tax rates for pensioners and workers were equalized, then the government would raise a large amount of additional revenue equal to about 35.0 billion euros, or 4.5% of GDP (pensions, 22.1 billion euros; owner-occupied housing, 12.9 billion euros; see the Appendix for the calculations). Forgone tax revenue, due to the concessionary tax treatment of housing and pensions, is nearly

<sup>6</sup> Tax consultants often refer to box 2 as the ‘fun box’, because of the many possibilities to defer or avoid taxation.

<sup>7</sup> Note that these figures apply to 2020, while the discussion on Table 5.1 applied to 2018, when the top rate on labour income was slightly higher.

<sup>8</sup> Presumptive labour income should be a maximum of 75% of the labour income in a similar job, the labour earnings of the highest-paid employee or a minimum of 46,000 euros. If the tax authorities suspect that the presumptive earnings of business owners are larger, then they need to prove this. If taxpayers argue that it should be lower than 46,000 euros, then they need to prove that to the tax authorities.
as large as all expenditure on the entire education system of 38.5 billion euros in 2019 (Ministry of Finance, 2019a). Removing all tax breaks for housing and pensions would allow for a cut in tax rates on labour income of about 9 percentage points in all tax brackets ignoring behavioural responses (see the Appendix).

The tax treatment of capital income affects not only the allocation of assets, but also the distribution of wealth. Piketty (2014) initiated a global debate on wealth inequality. In the Netherlands, the top 10%, top 1% and top 0.1% of the wealth distribution owned 64%, 26% and 11% of total wealth in 2017, respectively (Statistics Netherlands, 2019a). The bottom 60% of the wealth distribution has no net wealth. Therefore, the Netherlands has a very skewed wealth distribution, comparable with other continental European countries, such as France, Germany and the United Kingdom, and more unequal than Scandinavian countries (Piketty, 2014). Wealth inequality has been remarkably stable over time, unlike the developments that are documented by Piketty (2014) for other countries.

Although there are currently no statistical signs of rising wealth inequality (Statistics Netherlands, 2019a), some measurement issues prevent definitive conclusions from being drawn. First, reported wealth statistics exclude pension wealth. If all Dutch pension wealth is assigned to the individual workers and pensioners – which is a highly complex exercise – the wealth distribution becomes less skewed, as individuals with less wealth own relatively more pension wealth compared with other forms of wealth. By taking pension wealth into account, Caminada, Goudswaard and Knoef (2014) estimate that the wealth share in 2012 of the top 10% is 50% (61% without pension wealth) and 17% for the top 1% (25% without pension wealth). Second, there are various measurement issues related to recording capital incomes in the statistics. Because capital gains are generally untaxed, they are not recorded in the income and wealth statistics. Moreover, capital transactions larger than 250,000 euros of director-shareholders of non-listed firms are recorded only as financial transactions, but not as dividend incomes or capital gains (Frederik, 2014). The income and wealth statistics may therefore underestimate the true amount of inequality in income and wealth.

5.3 Capital income should be taxed

Taxes on capital income are socially desirable for both efficiency and equity reasons (Banks and Diamond, 2010; Diamond and Saez, 2011; Jacobs, 2013, 2015). Taxes on capital income generate efficiency gains by alleviating the distortions of income and consumption taxes. Taxes on labour income and consumption reduce the incentives to participate, to work more hours, to retire later and to invest in human capital (Erosa and Gervais, 2002; Jacobs and Boadway, 2014; Jacobs and Bovenberg, 2010). Taxes on capital income generate wealth effects, which raise both hours worked and participation, and delay retirement. Moreover, investments in human capital are encouraged as investment in financial capital becomes less attractive.

Taxes on capital income are also necessary to prevent tax arbitrage between labour and capital income so as to maintain the integrity of the entire income tax system (Christiansen and Tuomala, 2008). For example, if capital income were not taxed at all, then individuals would try to transform all their labour income into untaxed capital income (e.g. by starting closely held companies that pay out dividends rather than labour income).

Taxes on capital income are also desirable if not all capital income is a pure compensation for postponing consumption or bearing risk, but also contains ‘uneared income’ that is not a

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9 Total wealth includes all personal financial assets (saving deposits, bonds, shares), property, shares in non-listed businesses, minus all debts (including mortgages). However, official statistics do not include pension wealth.
compensation for economic efforts, such as capital gains on (inelastic) housing and land, monopoly profits and information rents.

These efficiency arguments to tax capital income are dependent on the presence of distortionary labour taxes, and apply irrespective of the redistributive goals of the government.\textsuperscript{10} By shifting the tax burden from labour to capital income, the inevitable welfare losses of taxation can be smoothed better over the income tax bases for labour and capital.

However, taxes on capital income are not only desirable for efficiency reasons. Taxes on capital income also contribute to achieving the government’s redistributional objectives at lowest social costs. It is generally not sufficient to organize all income redistribution exclusively via the progressive tax on labour income, as not all inequality in income originates from inequality in labour earnings (Diamond and Spinnewijn, 2011; Piketty and Saez, 2013; Piketty, 2014; Gerritsen and Zoutman, 2020; Gerritsen et al., 2020). In particular, individuals with higher ability to earn labour income also tend to save more, to inherit more wealth and to obtain higher returns on their capital because they invest in riskier portfolios. They also have better access to investment opportunities, and have on average a higher earning ability in the capital market. Therefore, it is optimal to tax capital income for redistributional reasons, because more income redistribution can be achieved than with the progressive tax on labour income alone.

All these efficiency and equity arguments for an optimal positive tax on capital income imply that it is not desirable to exempt the normal return to capital from taxation via a so-called rate-of-return allowance, as Mirrlees et al. (2011) recommended. Moreover, it is desirable – if possible – to differentiate taxes on normal and above-normal returns, by applying a lower tax rate on the normal return than the above-normal return, as is done in Norway (Cnossen and Sørensen, 2020; Gerritsen and Zoutman, 2020).

5.4 \textbf{How high should the tax on capital income be?}

The welfare gains of taxing capital income in terms of lower distortions of taxing labour income and larger income redistribution should be traded off against larger distortions in saving and portfolio investment. The optimal tax rate on capital income is likely to be lower than the tax rate on labour income, as taxes on capital income are probably more distortionary and result in relatively more tax avoidance and evasion due to the higher international mobility of capital.

Only few empirical studies credibly estimate the elasticity of taxable capital income or wealth with respect to its tax rate. Recent estimates suggest that the elasticity of taxable capital income or wealth can be substantial. Kleven and Schultz (2014) appears to be the only study that estimates the elasticity of taxable capital income with respect to the net-of-tax rate at around 0.1–0.3 for Denmark. Brühlhart et al. (2017) estimate an elasticity of wealth with respect to the net-of-tax rate equal to 1.2 for Switzerland. Seim (2017) reports elasticities of wealth with respect to the net-of-tax rate equal to 0.09–0.27 for Sweden. Jakobsen et al. (2020) estimate the long-run wealth elasticity with respect to the net-of-tax rate for top-wealth taxpayers of 0.77–1.15 for Denmark.

The only available estimates for the Netherlands are those of Zoutman (2018), who estimates the elasticity of wealth with respect to the after-tax return (not the net-of-tax rate). He cannot directly identify the elasticity of wealth with respect to the net-of-tax rate, but his estimates imply elasticities that lie in between the estimates of Seim (0.09–0.27) and Brühlhart et al. (1.2). Moreover, Zoutman (2018) suggests that the Dutch wealth taxes mainly trigger saving and

\textsuperscript{10} Naturally, the level of labour tax is determined by the redistributional goals of the government. However, the role of the tax on capital income is to raise efficiency, not to \textit{directly} redistribute income. By lowering the efficiency costs of the labour tax, however, taxes on capital income \textit{indirectly} help to redistribute more income.
portfolio shifts ‘on paper’, rather than real behavioural changes in saving and portfolio decisions.

Capital income is certainly more unequally distributed than labour income, and capital income is relatively more important for the top-income earners (Saez and Stantcheva, 2016). Hence, taxes on capital income also have redistributational benefits beyond the redistributational benefits of progressive taxes on labour income. How high the optimal tax on capital income should be depends on inequality in capital income conditional on labour income. Such information is currently not available for the Netherlands.

The optimal tax rate on capital income should presumably be of the order of 30–35% for the Netherlands (Jacobs, 2015). On the one hand, the elasticity of taxable capital income is presumably higher than that of labour income, which implies a lower optimal rate on capital income. On the other hand, larger inequality in capital income – conditional on labour income – implies a higher optimal tax rate on capital income. However, a tax of 30–35% is more an educated guess than a precise estimate. The possibility that a comprehensive income tax is optimal – where the sum of labour and capital income is taxed under a single progressive tax schedule – cannot be rejected on the basis of available evidence. Currently, Scandinavian countries levy taxes on capital income of the order of 20–35% (Cnossen and Sørensen, 2020).

5.5 How should capital income be taxed?

Optimal tax theory suggests that it is optimal to levy separate non-linear tax schedules on separate tax bases (see, for example, Mirrlees, 1976). By doing so, the government can raise the tax burden on tax bases that either are less elastic or feature larger intrinsic inequality (so that the distributational benefits of taxing such bases are greater). However, in order to tax each tax base with a separate non-linear tax schedule, the government requires information regarding how much capital income is earned on each tax base. This is problematic if various assets can easily be transformed into each other (e.g. by setting up closely held companies or financial vehicles), resulting in income shifting towards tax bases with lower tax rates. To prevent such tax arbitrage, it is highly desirable to tax all interest, dividend and capital gains from savings, portfolio investment, home-ownership, pension and share-ownership in closely held businesses as much as possible with a uniform, flat rate.11 As argued above, differential taxes on capital income may also affect portfolio choices if different types of assets receive a differential tax treatment. However, if taxes on capital income are uniform, and full loss-offsets are permitted, portfolio choices will no longer be distorted by the tax treatment of capital income.

Moreover, actual returns to capital, not presumptive returns, should be taxed. A capital gains tax should therefore be introduced, which taxes not only the normal returns to capital, but also the risk premium and rents (Spiritus and Boadway, 2017). By taxing capital gains, the government shares in the good and bad financial luck of households. Taxes on rents are a non-distortionary source of public finance. Moreover, by taxing the risk premium and rents, tax revenue increases. Furthermore, a tax on actual capital gains income is countercyclical and progressive (Cnossen, 1998; Cnossen and Bovenberg, 2001; Jacobs, 2013; 2015; Cnossen and Sørensen, 2020; Gerritsen and Zoutman, 2020).

11 The tax rate on capital income earned by pension funds may be somewhat lower than the standard rate on capital income for other assets, because the equity reasons to tax capital income are weaker for pension funds. In particular, inequality in pension incomes originates mainly from differences in labour incomes, and much less due to differences in capital returns, saving behaviour and portfolio choices – although these, too, may differ across pension funds. It still remains optimal to tax capital income in pension funds for efficiency reasons (i.e. to lower distortions of labour taxes, to avoid arbitrage and to tax rents). Lower taxes on capital incomes from pension funds can only be implemented, however, if tax arbitrage with other capital incomes can be adequately prevented.
The wealth tax in box 3 is the diametrical opposite of what the Mirrlees Review (Mirrlees et al., 2011) recommended: box 3 taxes normal returns to capital and exempts the above-normal returns to capital. The wealth tax in box 3 is also the opposite of what an optimal tax on capital income should be. For the same equivalent tax rate, tax revenues of a wealth tax are lower than of a capital gains tax by not taxing excess returns and risk premiums. Moreover, the government does not insure financial risk of households, but exacerbates their exposure to financial risk.

Higher financial risk for households is the mirror image of the ‘robust tax revenue yield’, which is often referred to by policymakers in defence of the wealth tax in box 3. This argument is an economic fallacy. Making tax revenue more robust lowers social welfare, as households’ exposure to financial risk increases if the government lowers the volatility of the tax base. By the same token, the wealth tax in box 3 is pro-cyclical. Average tax rates on capital income decline in upswings of the business cycle and rise in downswings. Box 3 thereby contributes to the volatility of the Dutch economy. Box 3 is also formidably regressive, because average tax rates decline steeply as capital income rises. As a result, box 3 contributes to wealth inequality. For all these reasons, the wealth tax in box 3 should be replaced by a tax on all realized or accrued capital income; see also Gerritsen and Zoutman (2020) and Cnossen and Sørensen (2020).

Liquid assets with a clear market valuation can be taxed with an accrual-based, or market-to-market, capital gains tax. This applies, for example, to all tradable assets, such as stocks and bonds. Moreover, the government also provides yearly estimates of property values to implement a property tax. These data could also be used to estimate capital gains on housing and tax system accordingly (Gerritsen and Zoutman, 2020). However, illiquid assets without an evident market value cannot be properly taxed with an accrual-based capital gains tax, such as shares in non-listed firms or works of art. Hence, capital gains on these assets can only be taxed with a capital gains tax upon realization. If capital gains are taxed, then capital losses should also be made deductible against capital gains.

For many decades, Dutch policymakers have consistently rejected a capital gains tax by referring to complications with ‘lock-in effects’: taxpayers defer realizations of capital gains and forward the realization of capital losses (Ministry of Finance, 2016). This argument is, again, largely a fallacy – not because lock-in effects are not empirically relevant, but because these lock-in effects are present precisely because the government provides tax incentives to postpone the realization of capital gains. Lock-in effects are not an intrinsic characteristic of a capital gains tax, but are a symptom of government failure to correctly implement it. To avoid lock-in effects, it is necessary to tax the accrual of interest in unrealized capital gains on illiquid assets (Auerbach, 1991; Bradford, 1995; Auerbach and Bradford, 2004). Then, the most important incentive for deferral of the realization of capital gains has been removed. In the Netherlands, this applies mainly to shares in closely held companies (see below). If lock-in effects nevertheless occur, their impact can be mitigated by only allowing the deduction of capital losses against realized capital gains for a limited amount of time.

### 5.6 Treat owner-occupied housing and pensions symmetrically with other capital incomes

12 Suppose that the wealth tax is \(\tau\%\) of all assets, the capital income tax rate is \(\tau\) on all asset returns \(r\), the normal return is \(\rho\) and the excess return is \(\pi\) \((r = \rho + \pi)\). A capital income tax and a wealth tax imply the same tax rate on the safe return if \(\tau = \tau\rho\). In that case, the wealth tax raises revenue of \(\tau =\tau\rho\), while the capital income tax raises revenue \(\tau\rho\). The difference is the tax revenue from taxing the excess return \(\tau\rho\).
A uniform regime for capital income implies that savings, portfolio investment, owner-occupied housing, pension wealth and business incomes are taxed symmetrically. This can be accomplished by merging box 2 with box 3 and including capital incomes from owner-occupied housing (imputed rent) and returns from pension wealth in the tax base for capital income. In addition, all capital gains on property should be included as well. Mortgage interest can then be made deductible, while imputed rent is increased to approximately 3–4% of the property value of the house. Both mortgage interest and imputed rent are then taxed at the rate of the capital income tax of 30–35%. Doing so eliminates all incentives for excessive debt financing for owner-occupied housing; see also van Ewijk and Lejour (2020) who also recommend removing the debt bias by moving owner-occupied housing to box 3. Moreover, the government can abolish the requirement of having a linear or annuity mortgage to be eligible for the mortgage interest deduction. This measure has been taken to curb excessive debt financing of houses, but ceases to have a clear rationale if all debt bias has been removed from the tax system. To address short-term liquidity issues, the government could consider introducing a borrowing facility to defer taxation of imputed rent or capital gains until the property is sold or the owner dies (Jacobs, 2013).

The system of deductible pension contributions and taxed pension benefits can remain in place if the reduced tax rates on pensioners are eliminated and aligned with those on workers. Social-security contributions for the pay-as-you-go state pension (the Algemene Ouderdomswet, AOW) should then also be levied on pensioners’ incomes. Capital incomes of pension funds (interest, dividends and capital gains on their portfolios) can be taxed under the new tax regime for capital income, possibly at a reduced rate. Furthermore, all costs of borrowing should be made deductible, such as interest on consumer credit, student loans and mortgages (for second homes also). The distortional transfer duty on property transactions should be abolished.

By allowing for a general tax exemption in the tax regime for capital income, the government can provide incentives to accumulate wealth (e.g. for retirement saving). However, it no longer distorts household saving and portfolio choices: via pensions, savings, portfolio investment, their own home or their own company. Of course, such a major tax reform requires a careful transition, and the tax treatment of housing and pensions may need to be phased in gradually, jointly with possible compensations for the biggest losers from the tax reform.

5.7 Stop the fun in box 2

The current tax regime in box 2 consists of a capital income tax of 25% on dividend payments and capital gains of dominant shareholders in closely held companies, mostly directors who work in their own firm. However, this tax regime offers all kinds of possibilities for lowering tax liabilities via deferral of profit distributions and capital gains realizations (lock-in effects), tax arbitrage with box 1 and box 3 (e.g. by allowing dominant shareholders to borrow from their closely held company) and via pension constructions. In particular, if profits were to be retained, the capital incomes inside the firm would be subject to additional CIT. In contrast, if dividends were to be distributed or capital gains to be realized, taxpayers would become liable to the tax on wealth in box 3 of the PIT. In both cases, taxpayers are liable to CIT on profits and the tax on dividend income in box 2. Since the tax rate in box 3 of (30%) can be twice as high as the CIT-rate (the lowest bracket is 15% in 2020), and risk-free interest rates have fallen to near zero, there are strong tax incentives to delay profit distributions and realizing of capital gains.\(^\text{13}\) In addition, the incentive to delay profit distributions is strengthened, because there is no correction for untaxed interest on unrealized capital gains. Furthermore, firm owners can

\(^{13}\) The condition for being indifferent distributing profits and saving in the PIT or retaining them and saving inside the firm is \(r \tau_{\text{CT}} = \tau_{\text{ox}3}\) where \(r\) is the risk-free interest rate, \(\tau_{\text{CT}}\) is the CIT rate, and \(\tau_{\text{ox}3}\) is the wealth tax in box 3.
save tax-free for retirement inside the firm, and they can benefit from reduced rates in the inheritance tax for business succession.

The Dutch Ministry of Finance (2019b) reports that Dutch non-listed companies have issued about 55 billion euros (7% of GDP) of debt to its dominant shareholders. Company loans are attractive because they allow the shareholders to take funds out of their company while avoiding taxation on dividend distributions or on realized capital gains on their shares. Moreover, if director-shareholders default on their company loans, they do not pay any tax over the income taken out of the company as a loan. Furthermore, and as explained above, the tax treatment of closely held companies in box 2 invites tax arbitrage from labour income (taxed in box 1) to profits (taxed in box 2), because the combined rate of the corporate tax and box 2 (43.75%) is lower than the top rate on labour income in box 1 (49.5%). To stop the fun in box 2, it should be integrated into the uniform regime for all capital income, which requires at least three adjustments.

First, to prevent tax arbitrage with the labour tax in box 1, the tax treatment of the presumptive wage income of the director-shareholder should be changed, which is only 46,000 euros in practice. Empirical evidence reveals massive bunching around the minimum presumptive labour income of the director-shareholder in non-listed firms (Bettendorf, Lejour and van ’t Riet, 2017). To solve this form of tax arbitrage, the director-shareholder should no longer receive a presumptive wage income (which is taxed under the labour tax in box 1), but a presumptive capital income of, say, 10% of all their invested equity in the company (Sørensen, 2010; Cnossen and Sørensen, 2020). Presumptive capital income is then taxed under the capital income tax and the remainder is progressively taxed as labour income in box 1. Doing so will close an important tax loophole in box 2.

Second, non-listed companies are used as savings banks because of their possibility to accumulate wealth while benefitting from various tax loopholes. Empirical evidence in Bettendorf et al. (2017) shows that dividend distributions are rare and are extremely sensitive to tax changes. In particular, the bulk of all dividend distributions has taken place in years where the tax rate in box 2 has been temporarily reduced. To prevent endless deferral of profit distributions or realization of capital gains (i.e. lock-in effects) and large-scale issuance of company loans to pay out undistributed dividends in the form of a loan, the government should therefore tax financial savings inside non-listed companies should be taxed in the same way as financial savings are taxed in PIT. This can be accomplished by setting the CIT rate ($τ_{CIT}$) at the same rate as the PIT rate on capital income ($τ_{PIT}$) and taxing real, not presumptive, capital income in the PIT. However, as long as the CIT rate remains lower than the PIT rate, tax neutrality can be achieved only by levying an additional tax ($τ^*$) on capital income generated inside businesses equal to the difference between the PIT and CIT rate on all capital income, i.e., $τ^* = τ_{PIT} - τ_{CIT}$. If the PIT remains a wealth tax, as is currently the case in box 3 ($τ_{box3}$), then tax neutrality can be achieved by levying an additional wealth tax ($τ_{wealth}$) on business wealth equal to $τ_{wealth} = 1 + r_{box3} - rτ_{CIT}$, where $r$ is the risk-free interest rate. If the risk-free rate is near zero, this wealth tax is close to the standard wealth tax in box 3 of the PIT. Under these schemes, the main incentive disappears to exploit closely held companies as savings banks in which returns to saving are taxed at much lower rates, or are even completely tax exempt, compared to saving at the personal level. Moreover, the main incentive to take out company loans will be eliminated.

Third, to completely remove the lock-in effect in realizing capital gains, it would also be necessary to tax the accrual of interest in unrealized capital gains. This can be accomplished by retrospective capital gains taxation, where interest is imputed at the moment of realization, based on the holding period of the business asset and market information on interest rates
ties are used mainly by ..., while interest is ..., the effective rates %.

This ... or their profits.

8%, income or capital gains on shares – 

to promote financial stability

Finally, the debt bias in the CIT should be removed entirely to promote financial stability (IMF, 2016). From an international perspective, Dutch firms have

5.8 Integrate the corporate income tax in the personal income tax

The Netherlands has a classical CIT in which interest is deductible, but dividend payments are not. Hence, the normal returns on equity of corporations are taxed twice, first, in the CIT and, second, in the PIT, where the normal return to all wealth is taxed in box 3, while interest is taxed only once in the PIT. The CIT is a very distortionary tax that reduces the incentives to invest and it promotes leverage through the deductibility of interest (debt bias). Moreover, the CIT provokes international movements of firms or their profits. These impacts of the CIT on corporate behaviour are empirically relevant and have been extensively documented in the literature (e.g. de Mooij, 2011; Riedel and Hofmann, 2020).

Double taxation of dividend income can be prevented by allowing for a tax credit in the PIT for CIT paid via a dividend imputation system as in, for example, Australia and New Zealand. The CIT is then only a withholding tax, much like the dividend withholding tax or the payroll tax. An administratively simpler alternative is a pure dual income tax system, where the rate of the CIT is set at the same rate as the PIT rate on capital income. The CIT is then a final withholding tax on dividend incomes so that no PIT is due on dividend income or capital gains on shares from incorporated businesses (Sørensen, 2010; Cnossen and Sørensen, 2020). As a result, it is no longer necessary to introduce a tax credit system for the CIT in the PIT. However, this alternative only works well if the CIT rate is equal to the desired rate on capital income in the PIT. In the Netherlands, official policy implies that the CIT rate will be gradually reduced to 21.7% in 2021 (15% in the lowest CIT bracket). This CIT rate would generate a too large differential with the proposed tax rate on capital income of 30–35% in the PIT. A dual income tax, such as implemented in the Scandinavian countries, therefore requires removal of the lowest CIT bracket and a much higher CIT rate, which should be at least around 25–30%.

Finally, the debt bias in the CIT should be removed entirely to contain financial leverage and to promote financial stability (IMF, 2016). From an international perspective, Dutch firms have
relatively high leverage (Hebous and Klemm, 2020). Moreover, the Dutch banking sector has a balance-sheet total of about four times GDP, which is among the largest in the EU (European Central Bank, 2018). A weakly capitalized banking system causes financial fragility and generates negative externalities by increasing the probability of financial crashes (Admati and Hellwig, 2013). The Great Recession demonstrated that a financial crisis causes large and long-lasting damage to GDP; the structural loss of GDP in the Netherlands amounted to about 10% (Jacobs, 2016). The CIT promotes financial leverage (European Central Bank, 2018) and the leverage of banks in particular (de Mooij and Keen, 2016). Elimination of debt bias in the CIT contributes to preventing future financial crises and promotes financial stability. This is even more urgent if it turns out to be impossible to substantially raise capital requirements of banks via the Basel Committee. Hence, as long as banks remain weakly capitalized, and negative externalities of bank leverage remain unaddressed, the tax system should certainly not encourage financial leverage.

Removal of debt bias can be done in a budget-neutral way by introducing a partial deduction for the costs of both debt and equity; that is, a partial allowance for corporate equity (ACE) together with a partial interest deduction. This would ensure that debt and equity are treated symmetrically for tax purposes. However, part of the revenue of the introduction of a single tax regime for all capital income in the PIT – as recommended in this chapter – could also be used to finance a full ACE. Then, not only financing distortions would be eliminated, but also all investment distortions, as all costs of finance have been made tax-deductible. The CIT then only taxes the above-normal returns of companies.

A far-reaching option would be to introduce a destination-based cash-flow tax (DBCFT); see also Auerbach et al. (2017) and Hebous and Klemm (2020). In the DBCFT, all investments are made deductible and there is a border tax adjustment to exempt exports, while not allowing deductions for imports in the CIT in order to make sure that the above-normal return to investment (in other words, the business cash flow) is taxed in the country of the destination of the firm’s product. Like the ACE, the DBCFT removes all investment and finance distortions. Moreover, it removes all location distortions and profit shifting. However, the DBCFT is a very risky option for two reasons. First, without international cooperation, international profit shifting will explode and this might lead to the end of the CIT as we know it (Hebous and Klemm, 2020). Second, the prime reason for having a CIT is to tax capital income at source so as to prevent a situation in which capital income is not taxed at all if tax authorities have difficulties tracing down shareholders and their incomes. Any CIT based on cash flow exempts the normal return to capital at the corporate level. If the normal return cannot be properly taxed in the PIT, then moving to a cash-flow tax on corporate income will be undesirable as it reduces the tax burden on capital income even further and will raise income inequality. Therefore, there are two necessary requirements for introducing cash-flow taxes on corporate income. First, there should be international cooperation in introducing such tax reforms. Second, all capital income should be properly taxed in the PIT.

### 5.9 Wealth taxes can be abolished if all capital income is taxed

A wealth tax is superfluous if all capital income is taxed under the PIT. The reason is that a wealth tax can be seen as a tax on the normal return on the underlying assets, as has been argued above. The normal returns to all assets are taxed if all capital income from interest, dividends and capital gains are taxed. However, as long as the Dutch government does not tax all capital income (interest, dividends and capital gains), and it does not tax all sources of capital income

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14 It is undesirable to introduce debt bias in the CIT to facilitate debt shifting so as to lower effective corporate tax rates on multinational enterprises (Schindler and Vrijburg, 2020). The first-best solution is to differentiate CIT rates (like the ones that are currently present in the CIT) without needing to introducing debt bias.
in the PIT, then a wealth tax can be defended as a second-best instrument to tax capital income indirectly. A wealth tax taxes at least the normal return on assets. Taxing wealth should be preferred over fully exempting capital from any taxation for both the efficiency and equity reasons listed above.

The same logic applies to inheritance; if all income from all assets in the inheritance is taxed, then it is no longer necessary to also tax the inheritance itself. However, two exceptions can be made to this rule of thumb.

First, the value of property may mainly reflect rents from the value of the land on which it is built. This is the case especially when housing supply is inelastic, as is the case in the Netherlands (van Ewijk et al. 2006; van Ewijk and Lejour, 2020). Therefore, capital gains on property are partly unearned income, because no economic effort is made by sacrificing consumption or bearing risk to earn housing rents. Second, inheritances are also unearned income for the recipients if the testator did not have an explicit bequest motive. As a result, the inheritance yields a windfall gain for the recipient (Jacobs, 2015).

It is highly efficient to levy non-distortionary taxes on rents and unearned income in order to lower taxes on more distortionary tax bases. Therefore, local property taxes and inheritance taxes may be raised. A doubling of the inheritance and property tax may yield around 5 billion euros in revenue (0.7% of GDP), which can be rebated in the form of lower taxes on labour income.

5.10 Transition issues

This chapter, proposes a fundamental reform of the entire tax treatment of capital income in the Netherlands. In doing so, it provides a sketch for an ‘ideal’ tax system. However, some of the proposed tax reforms can have major economic and distributional impacts. In particular, the transitions of the tax treatment of owner-occupied housing and pensions can only be done gradually and should include income compensations for the largest losers of the reforms, so as not to breach the trust that citizens should have in the government when it is making important long-term decisions. Nevertheless, a gradual transition path might look as follows.

- **Distribution-neutral recycling of revenue.** As a general rule, rebate all revenue from taxing owner-occupied housing, pensions and closely held assets, such as all other forms of capital income, back to households via cuts in PIT rates in box 1 so as to offset the distributional impacts of these reforms as much as possible. The proposed tax reforms are not intended to make the tax system more (or less) progressive, but to raise the efficiency of the tax system.

- **Owner-occupied housing.** Take 20 years for the entire transition. Gradually phase out the tax rate for the interest deductibility to the desired rate of the capital income tax of 30–35%. Raise imputed rent from 0.6% of the property value (for property under 1,090,000 euros) to 1.8–2.4% in box 1. At a top rate of 49.5%, this is equivalent to a tax of 30% on imputed rent of 3–4% in box 3. When the transition is complete, owner-occupied housing can be moved to the new box where all other capital income is taxed. Gradually raise the property tax. Allow individuals to reduce the share of linear/annuity mortgages to be able to qualify for mortgage interest deductibility, as the debt bias in home financing is gradually eliminated. Aim to compensate for the distributional consequences as much as possible by lowering the tax rates in box 1 for those who are hit hardest by the reform.

- **Pensions.** Take 20 years for the entire transition. Gradually eliminate the exemption of retirees for state-pension contributions in the first two brackets of the PIT in box 1.
Gradually introduce a tax on the returns of pension funds. Remove tax concessions for tax free saving retirement of director-shareholders in closely held companies. Compensate for adverse distributional losses for poorer retirees.

- **Director-shareholders of closely held businesses.** Immediately abolish the presumptive labour earnings of the director-shareholder and adopt the Nordic system of taxing presumptive capital income. Moreover, stop tax arbitrage and ensure tax saving neutrality at the personal and corporate level by equalizing the tax rates in the CIT, box 2 and box 3 to the desired rate on capital income. As long as CIT rates and capital income taxes in box 3 are not aligned, levy additional taxes on capital income or wealth generated inside businesses to ensure neutrality with the tax treatment of saving in the PIT. Apply retrospective capital gains taxation to tax accrual of interest in unrealized capital gains to eliminate lock-in effects.

- **Taxes on personal portfolio-investment.** Immediately introduce a combination of a realization-based and a market-to-market capital gains tax. Introduce a dividend imputation to avoid double taxation of dividends, as in Australia and New Zealand. Consider taxing excess returns at higher rates than normal returns, as in Norway.

- **Corporate income tax.** Immediately eliminate the debt bias by allowing for a partial deduction for the costs of debt and (newly issued) equity. Use the CIT as a withholding tax for box 3 in the PIT. The CIT can only be used as a final withholding tax if the rate of the CIT is increased to that of the PIT. Gradually aim to reform the current CIT towards an ACE or DBCFT, under two conditions: first, such a reform is coordinated internationally; second, all normal returns to capital income should be liable to tax in the PIT.

- **Inheritance.** Immediately raise rates and reduce exemptions. Abolish the business succession facilities directly.

### 5.11 Conclusions

For quite some decades, the Netherlands has faced a serious challenge to implement a major tax reform. Unfortunately, the Rutte III cabinet has not yet succeeded in doing so (Jacobs, 2017b). In 2019, then State Secretary for Finance, Menno Snel, announced that he would gather ‘building blocks’ for fundamental tax reform (Snel, 2019). A major building block should be a uniform tax regime for all capital income, with a uniform tax rate above a general exemption applied to all interest, dividend and capital gains from all sources of capital income: savings, portfolio-investments, owner-occupied housing, business-ownership and pensions. Capital gains on all assets can be taxed with a capital gains tax on market-to-market basis for liquid assets and on realization basis for illiquid assets. The tax-favoured status of debt financing should be abolished entirely; the tax treatment of debt finance should be identical to that of equity finance. Inheritance and property can be taxed at higher rates to shift the tax burden to less distortionary tax bases. Possibly, a somewhat lower tax rate on capital income earned by pension funds might be applied. All revenue generated by this fundamental tax reform should be rebated by the reduction of tax rates on labour income, the elimination of the property transactions tax and the introduction of tax credits in the PIT for corporate taxes paid on dividends and capital gains. This tax regime for capital income no longer unnecessarily distorts the allocation of capital and risk of the Dutch economy, potentially yields large efficiency and equity gains and makes the Dutch economy financially less fragile.

**Appendix**
This appendix provides the sources of Table 5.1, the calculation of the revenue cost of the tax treatment of owner-occupied housing and pensions and the data used in Figure 5.1.

Sources of Table 5.1

Unless indicated otherwise, all data are from Statistics Netherlands (2019c). The revenue loss due to deductible pension contributions amounts to 19.78 billion euros (Ministry of Finance, 2019a). Tax revenues in box 2 and box 3 are available only for the year 2016 and are derived from personal communication with the Ministry of Finance. Revenues from the property tax are taken from Statistics Netherlands (2018). The tax rates for box 1, box 2, box 3, the inheritance and gift tax, the CIT, the dividend withholding tax and the property transactions tax in 2018 all come from the web site of the Tax Authorities.\footnote{See www.belastingdienst.nl.} This also applies to the rent imputation for owner-occupied housing. All tax rates in box 3 have been converted into an effective rate of the wealth tax. In box 3, 30\% tax is levied on a fictitious return of 2.017\% for wealth up to 100,000 euros, 4.326\% for assets between 100,000 and 1,000,000 euros and 5.38\% for assets above 1,000,000 euros (Tax Authorities, 2019a). The property tax rates are taken from COELO (2018). The rates of the landlord tax are obtained from the Tax Authorities (2019b) and the bank tax rates are derived from the Tax Authorities (2019c).

Estimated revenue loss as a result of the tax treatment of pensions and housing

Table A.1 provides the total revenue loss due to the tax facilities for pensions and homeownership. This calculation is made by assuming that capital incomes in pension funds and owner-occupied housing are taxed under the same regime as private saving and portfolio investment. Moreover, the tax rates in the PIT on workers and retirees are equalized by eliminating the reduced rates in the PIT for retirees. This is a rough ex ante estimate of the budgetary impact of the tax treatment of owner-occupied housing and pensions.

The low tax rate on pensioners relative to workers cost 6.5 billion euros in 2017 on a net basis. Not only are pension contributions deductible, future pension benefits will be taxed at lower rates. The net benefit is equal to the tax differential between workers and retirees of 17\% (CPB, 2010). The revenue loss due to deductible pension contributions is 19.78 billion euros (Ministry of Finance, 2019a). Using an effective deduction rate of 52\% on pension contributions (CPB, 2010), total pension contributions are estimated to be 38.0 billion euros. The net revenue loss amounts to 17\% of the pension contributions of 38.0 billion euros.

In addition, the government loses 15.6 billion euros in revenue in box 3, because capital incomes of pension funds are not taxed. This is equivalent to an average of a 1.2\% wealth tax over approximately 1,300 billion euros of pension assets in 2018 (De Nederlandsche Bank, 2019). Although the wealth tax in box 3 has been made progressive in the meantime, it was introduced in a budget-neutral way in 2017 (House of Representatives, 2015). This implies that the average rate of the wealth tax in box 3 is still approximately 1.2\%.

For owner-occupied housing, the revenue loss from the mortgage interest deduction minus the tax on imputed rent is 7.0 billion euros (Ministry of Finance, 2019a). In addition, the government loses 5.9 billion euros in box 3 because the net property value is not liable to wealth taxation in box 3. Once again, it has been assumed that the wealth tax in box 3 is 1.2\%. This yields a revenue loss of 1.2\% of 491 billion euros in net property wealth. This net value of owner-occupied housing is the gross value (1,199 billion euros; Statistics Netherlands, 2019a) minus total mortgage debts (708 billion euros; Statistics Netherlands, 2019a).
Table A.1. Net revenue loss of the tax treatment of owner-occupied housing and pensions (in billion euros)

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<tr>
<td><strong>Pensions</strong></td>
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<tr>
<td>Revenue loss because pension contributions are deductible at higher rates than pension benefits are taxed</td>
<td>17% of 26.873 billion euros pension contributions 6.5</td>
</tr>
<tr>
<td>Untaxed capital incomes pension funds</td>
<td>Average of 1.2% over pension wealth of 1,300 billion euros 15.6</td>
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<tr>
<td><strong>Owner-occupied housing</strong></td>
<td></td>
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<tr>
<td>Revenue loss due to mortgage-interest deduction minus tax on imputed rent</td>
<td>7.0</td>
</tr>
<tr>
<td>Untaxed net wealth of owner-occupied housing</td>
<td>Average of 1.2% over 491 billion euros net property value 5.9</td>
</tr>
<tr>
<td><strong>Total revenue loss of tax treatment of pensions</strong></td>
<td>22.1</td>
</tr>
<tr>
<td><strong>Total revenue loss of tax treatment owner-occupied housing</strong></td>
<td>12.9</td>
</tr>
<tr>
<td><strong>Total revenue loss of tax treatment of pensions and owner-occupied housing</strong></td>
<td>35.0</td>
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Taken all together, the tax facilities for pensions and owner-occupied housing result in a revenue loss of $6.5 + 15.6 + 7.0 + 5.9 = 35.0$ billion euros. A reduction in the tax rate of 1 percentage point in all tax brackets costs $3.799$ billion euros (Ministry of Finance, 2019c). Hence, tax rates on labour income can, ex ante, be reduced in all brackets by more than 9 percentage points if pensions and owner-occupied housing are taxed in the same way as savings and portfolio investments in box 3.

Data for Figure 5.1
All tax data in Figure 5.1 come from the European Commission (2018). The implicit tax rates on capital income and the revenue shares of taxes on capital income are weighted with GDP for each country in 2017. Data for GDP are taken from the Eurostat database (http://ec.europa.eu/eurostat/data/database).

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