

Zsuzsanna Máté Galántainé

# *The reality of a cash flow based corporate tax system*

Capital income, cash flow, or a mixture of the two may serve as the corporate tax base. In the case of companies, fundamentally, corporate income serves as the tax base; however, in recent years, there has been a growing interest in cash flow-based taxation both in the research of taxation theory and in practice. The present study outlines the advantages and disadvantages of a possible cash flow tax (CFT) in comparison with those of the traditional corporate income tax (CIT), attempting to find out whether a cash flow-type tax may become a realistic alternative to the currently used corporate income tax, and whether the traditional due date based income tax may be replaced by a cash flow-based consumption tax? The main aspects of the analysis are: the neutrality and efficiency of the cash flow tax, the complexity of the tax, and its performance costs. Also, we wish to find out how a CFT would affect tax revenues (provided that tax rates remained unchanged), and whether it can be applied in a global environment (regarding international transactions)?

## ON CASH FLOW TAX IN GENERAL

The notion of the cash flow base is very simple: the difference between the company's revenue from selling goods and services and the flow and stock

expenditures in the period examined. The practical advantage of applying the cash flow method is that it is not necessary to operate complicated accounting administration systems to deal with depreciation and receivables, to adjust inflation, etc. as only the cash flows of real transactions, and – depending on the definition – the cash flows of financial transactions matter.

The idea of cash flow-based corporate taxation – an R-based tax in its original form – was introduced by E. Cary Brown in the mid-20th century. The related early literature examined what effects different from those of the income tax CFT had on encouraging investment and financial procedures. From the 1970's onwards, the comparison of the relative economic effects of the two methods was given more weight, with special emphasis on the analysis of aspects relating to efficiency, fairness and simplicity. Those studies examined the issue from the point of view of industrialised countries and did not focus on its international aspects or the transitional problems of developing countries as yet.<sup>1</sup> The idea of corporate cash flow taxation can be spotted e.g. within the Hall–Rabushka flat tax systems as, essentially, flat tax is very similar to the real (R) base business cash flow tax.<sup>2</sup> In recent literature on cash flow, mostly issues relating to international connections have been highlighted.

While in most countries it is the income that is applied as the tax base, its definition rarely corresponds to actual capital income in practice, as that, in effect, is given to shareholders. Several developing countries have introduced investment boosting taxation systems which are only nominally income-based. *It is essentially a mixture of different elements of income and cash flow that defines the tax base*, which feature can be discerned when considering that the application of accelerated depreciation, investment tax credits, allowances and other tax advantages is permitted. This hybrid system – as interests are deductible and capital expenditures can be applied as tax reducing items when calculating the tax payable – makes it possible to treat capital in a much more advantageous framework than pure cash flow taxation does. The deductibility of purchases of tangible fixed assets encourages investment, but, at the same time it may result in countries losing significant tax revenues.<sup>3</sup>

The cumbersome implementation of income taxes has made economists want to closely examine the advantages of cash flow taxation. The most striking characteristic of CFT is its notional simplicity, while its most attractive feature is that it *does not distort decisions relating to capital expenditures and financing*. So far, cash flow taxation has only been introduced in a few countries with partial scope or in marginal areas. Such taxes are applied in Estonian corporate taxation, under the “North Sea Fiscal Regime” in the UK, in the taxation system of petroleum in Norway, and as a regional business tax in Italy. An R-based CFT has been applied in the mining sector in Papua New Guinea since 1970.<sup>4</sup>

## ALTERNATIVES OF THE MEASUREMENT BASE OF CASH FLOW TAX

To examine possible corporate tax types it is necessary to clarify two important questions: *what is being taxed* (the definition of the tax

base), and *where that is to be paid* (the location of the tax base).<sup>5</sup> The calculation of the tax base may be based on one of the following factors:

- full return on equity of a company (including both normal and business profits),
- full return on all capital investment (including loan capital),<sup>6</sup>
- only the business profit.

Many economists emphasise the *consumption tax-like features* of cash flow taxes, and consider the main difference between CIT and CFT to be related to the different treatment of savings.<sup>7</sup> Other experts (such as Mintz, Seade, Zee, Auerbach, Devereux, and Simpson) do not focus on that aspect, but on *the extent of the taxed capital income*. The most striking difference between traditional corporate income tax and cash flow tax is that whereas CIT taxes the full return on equity of a company, applying CFT means that only the business profit is taxed. *Cash flow tax operates as a tax imposed on a simple business income (i.e. the business profit)* because it enables companies to directly deduct their capital expenditures, i.e. the sum of the actual depreciation and financing costs at present value. If losses can be fully deducted or refunded without any time limit, it will also be possible to (implicitly) implement the cost of taking risks.<sup>8</sup> The business profit is lower than the reported profit of a company as equity costs are not deducted from the latter. Taxing the business profit can be *advantageous because it does not distort decisions relating to marginal investment and production*, as the fees expected to have to be paid to be able to conduct certain activities have already been settled. In other words, *it has no effect on investment and financing-related decisions* because the company can deduct its real capital alternative cost of the capital and labour that have been availed of from its tax base. The business income is the return on permanent (invested)

production factors, and as such factors can also be provided by the government, corporate cash flow tax may be considered the legal price of those services. In the case of a business cash flow tax, the measurement base of taxation is the difference of actual revenues and actual expenditures, the latter naturally including sums allocated for investments and payroll. According to Meade's suggestion, the following may serve as alternatives to the corporate income tax base: the real (R-) base, the real and financial (R+F-) base and – essentially the equivalent of the latter – the share (S-) base.

### R-BASED CASH FLOW TAX

R- (real) CFT makes it possible to deduct purchases of tangible fixed assets in one sum, but ignores financial operations, thus depreciation, credits, and related interest expenditures have no effect on the tax base.

*The R-base*<sup>9</sup>

+ Revenues from selling products and providing services
– Intermediate consumption
– Gross investment expenditures
– Payroll (including national insurance contributions)
<hr/>
= R-based tax base

An R-based cash flow tax – disregarding cross-the-border transactions – is essentially a value-added tax, from whose base all payroll expenditures (including national insurance contributions) have been removed. In the case of R-based taxes, interests – like cash receipts and cash payments – are ignored. Distributed incomes and retained earnings are also irrelevant from the point of view of taxation. When calculating the tax base, *the economic and accounting-related measurements of revenues and costs are not indispensable*. That eliminates

several problems that tend to occur in relation to traditional income taxes, rendering e.g. tracking depreciation unnecessary. There is no need to take measures to avoid the taxation of the so-called “profit on paper” (i.e. the profit merely generated through accounting entries) because the tax base is not based on accounting settlements, but on cash flow. *The R-based tax does not affect the financing policy of the company. Neither does it influence the size and range of investments. Provided it is destination-based, it does not influence the location of the capital or the profit either.*<sup>10</sup>

If the investor also avails of credit financing, R-CFT may have the same effect as if the project were provided a subsidy. That potential element of support may be alleviated if it is possible to defer rather than provide tax credit (i.e. to postpone it applying the prevailing interest rate on the market). As a result of purchasing tangible fixed assets of large values, the net cash flow may turn negative. In such cases, the role of the a government is similar to a that of a sleeping partner in private investments as state revenues are exposed to the same investment risks as those that private investors face. Such a risk cannot even be fully eliminated by not availing of the total net tax credit in the given period, but deferring it for the next term. That feature of R-CFT also characterises other cash flow tax types.<sup>11</sup>

*Applying R-based taxes necessitates the differentiation between real and financial cash flows*, which is not unambiguous in each case, and that may lead to abusive practices. A tax imposed on such real economy income surpluses would absolutely not – or only hardly – affect banks and other financial intermediaries, as their annual cash flow surplus mainly derives from the balance of interest revenues and interest expenditures. Consequently, the introduction of an R-based cash flow tax would necessitate the special treatment of financial institutions.<sup>12</sup>

## THE S-BASED CASH FLOW TAX AND THE ASE-TAX<sup>13</sup>

*R-based taxes* only cover cash flows of real transactions. If – besides real transactions – the cash flows of financial transactions are also to be taken into account, it is necessary to apply an *(R+F)-base tax*. Its tax base is the net cash-in-flow deriving from combining real transactions and financial transactions, which – considering the final sum of the settlement – equals the net cash payments of share transactions, known as *S-base*.<sup>14</sup>

R-base = net cash inflow from real transactions  
 F-base = net cash inflow from financial transactions  
 S-base = net cash outflow from share transactions  
 S=R+F

### The S-base<sup>15</sup>

+ R-based tax base  
 + Taking out credits  
 + Interests received  
 – Credit payment  
 – Interests paid

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= S-based tax base<sup>16</sup>

The S-based tax base equals the net distributable income, which can also be defined as follows:

+ Gross distributed income  
 – Incoming equity payments (sole partnerships, partnerships)  
 – Revenues deriving from issuing new shares (companies)  
 + Outgoing equity payments

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= Net distributed income

Under traditional S-based taxation, theoretically speaking, shareholders' capital increase directly results in a tax rebate, and distributed dividends immediately become taxable. The symmetrical tax procedure is to secure the tax neutrality of investments by ensuring that the after-tax net present value of investments is always proportionate to their pre-tax value. Usually, the same is not so simple in practice,

because, firstly, the opportunity to receive an immediate tax rebate – like in the case of VAT – may lead to seriously abusive practice, which issue does need to be addressed. Secondly, it is necessary to deal with the exploitation of tax rate differences, which in this particular case may manifest itself in shareholders' emigrating, or the abusive transfer of share property. As *S-based taxation practically exempts interest revenues from taxation, it also ensures the neutrality of intertemporal choices*.<sup>17</sup> Another advantage of S-based taxation is that – unlike R-based taxation – it does not require special tax regulations concerning financial institutions.

*Howell H. Zee* has demonstrated that *S-CFTs do not affect the rate of return of projects* even if an investment generates surplus profit.<sup>18</sup> It is absolutely clear that S-CFTs do not only generate zero EMTR,<sup>19</sup> but also zero EATR.<sup>20</sup> That surprising result derives from the fact that there is no difference between the treatment of real transactions and financial transactions. However, that statement only holds true for source-based S-CFTs.

In this modern age – when the growth of the financial sector is accelerated and its development results in new and new financial products – an S-based cash flow tax may prove far more practicable. Financial innovations result in very special financial instruments, the difference between credit and equity is becoming blurred, and even the differentiation between real and financial transactions has been raising more and more difficulties. Under such circumstances an R-based tax – solely concentrating on real transactions – would be unsuitable, and its operation would cause several hard to deal with problems. *The advantages of cash flow taxation are best merged together under S-based taxes. Under S-based taxation there is no tax obligation at corporate level, only the transactions between the company and its shareholders are taxable at shareholder level.* As such a system does not require that companies keep detailed tax

records, it may further decrease their compliance costs.

To maintain the decision neutral characteristics of cash flow taxation and to ensure a constant level of tax revenues, *Knirsch & Niemann*<sup>21</sup> propose a *deferred S-based tax called ASE tax*.<sup>22</sup> According to them, one of the main reasons of the tax distortions that characterise investment and financing decisions is that there exist two tax bases at the same time: the tax base of labour incomes is determined in accordance with cash-based accounting, while in the case of companies, the calculation of taxes follows accrual-based accounting. Although the idea does not appear in the EU tax reform plans, they deem it necessary to eliminate that duality in order to achieve tax neutrality. The most obvious solution would be to apply the method known in relation to labour incomes in relation to capital incomes as well. Shifting the taxation of corporate income to shareholder level has been proposed by other researchers as well, claiming that in effect tax burdens can only be borne by individuals, and all forms of impersonal corporate taxation realise harmful distribution objectives.<sup>23</sup>

*The most important characteristic of the ASE tax is that business revenues are exempt from taxation until they are distributed among the owners, and only dividends are taxable pursuant to the regulations of the tax system in effect in the country where the individual shareholders are domiciled.* That could be relatively easily implemented in the case of sole partnerships or smaller companies, and – considering its corporate characteristics – it could be viable in Hungary, too. Another characteristic of ASE, i.e. that the incomes of companies need not be distributed between labour and capital, may also favour smaller companies to a larger extent. But what about pyramid-like corporate complexes where private individuals as ultimate owners are very distant from parent companies? In the present globalised world it is more

and more common to find complicated and reciprocal ownerships spread across several countries, which would render it rather difficult to implement destination-based taxation projected to shareholder level.

## LOCALISATION OF THE TAX BASE, SOURCE/DESTINATION-BASED CFT

According to the location of the tax base, experts differentiate between source-based, seat-based and destination-based taxation systems. Due to their consumption tax-like features, CFTs are best suited for destination-based taxation.

In the case of *destination-based CFTs* the base of the tax obligation is the value of domestic sales, from which purchases from domestic suppliers (including investment goods) and labour costs can be deducted. Export sales are not added to and import purchases are not deducted from the tax base. Consequently, destination-based CFTs tax the income of domestic (domestically owned or foreign) capital (as well as domestically owned foreign capital incomes if consumed in the domestic market). As for the source-based CFT base,<sup>24</sup> it includes the revenues of both domestic and foreign sales, and, besides labour costs, purchases from both domestic and foreign suppliers (including investment goods) can be deducted from it.

*Under destination-based R-CFTs*, real transactions entered into with non-resident taxable entities do not count, which means that export revenues are not taken into account among incoming cash receipts and import expenditures are not dealt with among cash payments. *Destination-based S-CFTs* ignore all (real and financial) transactions entered into with non-residents.<sup>25</sup> For instance, interest revenues from non-residents are not included in cash receipts, and interest paid to non-residents are not included in cash payments. Loan and cred-

it transactions are treated in the same manner. It means that credits from foreign banks cannot be deducted from the tax base, and their repayment is not added to it. Consequently, providing a loan for a foreign company does not bring along tax reliefs, and the loan repayment received does not constitute a tax burden.<sup>26</sup> In relation to that issue, it may cause problems that transactions entered into with residents and non-residents cannot always be unambiguously separated from each other in practice, and quite often they are not independent from each other. If domestic inputs are partly used to manufacture export products, one of the destination-based taxes (R-CFT or S-CFT) is to be relied on in order to divide the cash payments of real transactions into two groups – to see which ones are linked to the export revenues and which ones to the revenues of domestic sales. As for financial transactions under destination-based S-CFTs, a similar division is necessary: for instance, if a bank uses non-financial type domestic inputs (payroll, overheads, etc.) in relation to financial transactions entered into with non-residents. Such inputs would have to be divided based on the ratio of cash receipts from financial transactions entered into with residents and non-residents within total cash receipts.

At a first glance, it may seem that domestic companies under *destination-based S-CFTs* (e.g. a bank) have the opportunity to decrease their tax obligations by borrowing from a non-resident (as that is not classified as a cash receipt), and lending it to a resident (as that is not classified as a cash payment). However such transactions only seemingly offer tax advantages: they only serve to postpone tax payments on behalf of the companies as loans to any residents become taxable once they are repaid. Moreover, interests paid to non-resident creditors are not deductible from the tax base, while interest revenues from resident borrowers are taxable. Thus the transaction does

not provide a tax advantage for the company, but the timing itself – the more advantageous scheduling of payments – may enable them to exploit the time value of money, which can result in delayed arrival of tax revenues on the budget side. Naturally, if the borrower is a resident taxable entity, the amount borrowed (as a cash receipt) becomes taxable upon receipt.

Experts have been considering the introduction of a (correctional) equalising tax to be imposed on borders between countries, which would be applied to financial transactions as well as real processes. It remains a question what exactly would be the base of the cash flow tax – especially of the S-CFT – then, not to mention the difficulties caused and the amount of surplus administration imposed by the necessity of determining borrowers' and creditors' taxability status (in order to decide whether they are residents) at company level.

In summary: *destination-based taxes – in comparison with source-based taxes – alleviate export taxation and impose a tax burden on imports. Theoretically, the pure form of destination-based R-CFT*

- does not influence the choice of investment locations,
- does not affect the choice between different financing methods,
- does not influence the location of the profit,
- does not motivate the relocation of the profit to countries with low tax rates.

## ADMINISTRATION AND SOME ASPECTS OF TAX AVOIDANCE

In connection with a modern tax – besides its efficiency – the complexity of its administration, as well as issues of tax coordination and tax competition ought to be analysed. Also, it is important how easily the tax base can be artificially relocated outside the scope of domestic taxation. It is important to pay attention to the



integration and harmonisation of corporate and individual taxation systems. Differences between them create opportunities for tax arbitrage, which might distort market decisions (i.e. different revenues and expenditures might serve to achieve maximum tax benefit instead of maximum yield).<sup>27</sup> Naturally, upon implementing a CFT, company and personal tax bases need not be analogous from the beginning, as the above objective can be achieved through appropriate credit settlement, too (for instance if taxes paid at a corporate level are recovered to individuals when they are paid their incomes).

In practice, there are numerous administrative issues to be resolved relating to imposing taxes on companies, the two most important of which probably are *how to ensure the determination of the tax base and how to eliminate the possibility of tax fraud and tax avoidance*. If a cash flow tax is implemented, current administrative problems relating to corporate taxation practically disappear. Taking into consideration the cash flows of different transactions eliminates the necessity of business cost calculation, and exempts one from having to deal with the issue of the optimal timing of profits, stocks, depreciation, and capital gains. Cash flow taxation does not use the notions of capital gain and depreciation, and as all purchases are deducted in their entirety – upon completion thereof – *it is not necessarily to record transactions on an ongoing basis*. Obviously, all capital withdrawals are to be treated as taxable incomes within the system.<sup>28</sup>

However, cash flow taxation raises new problems, the most important of which is that *the immediate deductibility of purchases of tangible fixed assets may easily lead to tax fraud and may cause striking unevenness regarding tax obligations*. To avoid that, special regulations would need to be implemented, but that would increase the complexity of the system. Naturally, in the case of an R+F-based cash

flow tax, i.e. if cash flows of financial transactions are included in the tax base, fluctuation may prove far smaller.

On examining the administrative complexity of the two types of cash flow taxation, it can be found that the complexity of cash flow systems is basically affected by two factors: the theoretical base of taxation (the principal of source vs. destination), and the treatment of real and financial processes.

*In the case of a real base cash flow tax, the first obvious problem is the issue of taxing the financial sector*. R-CFTs cannot be applied to financial institutions without certain modifications because otherwise most such institutions would not have any tax obligation at all. A relatively simple solution to that problem is offered by the experts, essentially that credit revenues and credit repayments, as well as interest revenues and interest payments ought to be treated as real transactions in the case of the group(s) of financial institutions where it is deemed necessary. Naturally, that would not solve every problem as defining relevant financial institutions might prove questionable in itself. One can conceive several ambiguous situations, for example when a company whose main activity is of a non-financial nature operates a business unit which is similar to a standard financial institution regarding all relevant aspects. An even more important and more common problem is that within the transactions between financial institutions and non-financial organisations, real (e.g. financial services) and financial (interest and capital) cash flow elements are often mixed. From a practical point of view, compliance with R-CFT requirements constitutes an almost insoluble difficulty as financial institution would have to divide all transactions with their customers into real and financial elements. It is especially alarming that that would entrust taxpayers with the right to make decisions which can impact their own tax bases. Another problem is that

real transactions can be easily hidden by being labelled as financial transactions to avoid taxation. Typically, such reclassifications of transactions involve classifying revenues from the sales of products and the provision of services as financial transaction-related payments (e.g. interests). In the case of transactions in the course of which one side falls under R-CFT while on the other side it is indifferent whether the incomes and outgoings are deemed real or financial transactions (e.g. in the case of tax free or foreign transactions), there exist numerous ways to avoid taxation, which could be advantageous for at least one of the two sides. In my opinion, countering the negative effects and dealing with the problems relating to the application of R-CFT mentioned above would prove rather difficult tasks; therefore I find it more viable to apply S-CFT instead of having to differentiate between real and financial transactions.

*In the case of S-CFT*, it is also necessary to defer certain transactions, i.e. to differentiate interest and dividend payments, which, however, would be simpler to implement as it affects a significantly smaller circle (owners, creditors) than the general differentiation of real or financial transaction. As in the case of S-CFT *it is of particular significance whether a cash flow is classified as interest or dividend payment, exploiting transfers and arbitrage opportunities between them can be expected*. Reclassification of certain interest payments as hidden dividends is known in most corporate tax systems, and the thin capitalisation rules serving to deal with that problem are indispensable in the case of S-CFT, too. Still, it can be established that regarding administration, S-CFT has a decided edge over the other possible tax bases.

Moving on to *the examination of tax avoidance*, the two most common situations allowing it to occur are: where difficulties of tracking the tax base enable taxpayers to understate their incomes, and where non-taxable cate-

gories may serve as legal tax havens if taxable entities can channel their resources and revenues towards such – tax-free or relatively advantageously taxed – forms (e.g. through transfer pricing). In the case of cash flow taxation, tax avoidance opportunities exploiting the assessment difficulties relating to the tax base are far less significant than in the case of traditional income tax, and would be smaller under S-CFT than under R-CFT. *In the course of applying any cash flow tax, the biggest danger connected to tax avoidance is created by the opportunity to record losses*. It is debated whether a company which records losses in the course of its operation should receive a tax credit or a tax rebate with regard to it. Providing a tax rebate is equivalent to the implicit deduction of risk as if that happens, the state effectively accepts a share in both the profit and the loss of the company. Taxation systems usually permit deferral, thus companies may use their losses to decrease their tax obligation during the next (profit earning) years. In the case of cash flow taxation, losses are far more likely to be incurred especially in the initial and growth stages of companies, when current and capital expenditures exceed revenues. Although that effect can be alleviated by implementing alternative measures (e.g. including financial transactions in the cash flow, or permitting depreciation instead of capital expenditures), substantial losses may still be incurred in the early years of an investment. A suggestion has already been made to address the above problem (by the name of *modified S-CFT*), aiming to render the collection of budgetary revenues more even and more reliable. An important step of that modification is the replacement of the cash payment of purchases of tangible fixed assets with normal depreciation. The other very important step is that, parallelly, the (net) non depreciated value of tangible fixed assets is deferred applying an interest rate equivalent to the opportunity cost



of the equity. Thus the modified model is rendered equivalent to the total tangible fixed asset expenditure at present value (with regard to *határ* investments). In other words, *modified CFT provides zero METR*,<sup>29</sup> i.e. *only the surplus income is taxed, and the decisions relating to *határ* investments are not distorted*.<sup>30</sup> As the modification implies the removal of the most important characteristic of cash flow taxation – i.e. the deductibility of tangible fixed asset expenditures – from the system, the modified S-CFT can be regarded as a mixture of income tax and cash flow tax, i.e. a hybrid tax, which, in my opinion, may serve to bridge the difficulties that may arise during the transition from CIT to CFT.

From the point of view of taxation, CFT does not hinder investments. It is still questionable whether the expenditures thus recorded really serve a business purpose and whether they are really necessary for the economic activity of the company. In the case of cash flow taxation – due to the unevenness of investment expenditures – incoming tax revenues are less constant than in the case of income taxation, which may render tax authorities somewhat insecure and render tax avoidance easier. *It is possible to circumvent tax payment by turning a taxable income into a tax free or more favourably taxed activity under cash flow taxation, too.* Suppose a company makes an investment, which – pursuant to the rules of pure cash flow taxation – it deducts in one sum as capital expenditure, remaining in the red and receiving a tax credit. If the company can channel its income into a tax free organisation (e.g. a pension fund), then it is essentially the tax credit that “subsidises” fundraising. A widely used method to minimise tax payment is to “push” loss reserves towards a taxable entity with positive tax payment obligation (e.g. by mutually invoicing each other or through mergers).<sup>31</sup>

Each taxation system has its tax avoidance techniques, the system of income tax payment

as well as CFT, which is why it is not the best idea to overemphasise tax fraud opportunities regarding cash flow taxation. As cash flow taxation has not been introduced in any countries – as the pivotal element of their tax system – *for want of experience* it is not known what other administrative difficulties might arise. Probably, they will be of a different nature than under CIT; however, their extent is hard to predict. Consequently, *it cannot be stated without any doubt that cash flow taxation is definitely more advantageous than income taxation from the point of view of administration.*

### SOME INTERNATIONAL ASPECTS OF CASH FLOW TAXATION

International aspects of tax policies influence the decision for or against cash flow taxation, too. Capital – especially new capital in search of a location for company premises – is rather mobile and will find its way towards the most hospitable investment locations. The income of a company is also quite agile; companies may transfer their profit from one country to another – by regrouping financial assets and liabilities – without moving actual resources from one place to another. Exploiting differences between the taxation systems of different countries, multinational companies are capable of minimising the corporate tax payable after their profits generated worldwide by deducting certain items in countries with high taxes, and having their incomes taxed where tax rates are low. Such tax avoidance can partly be placed under control through international agreements.<sup>32</sup>

In an open economy, tax policy needs to deal both with the own tax imposed on the income of foreign companies and with the tax burdening the income of domestic companies generated abroad. From the budgetary point of view, it is important to consider which tax provides

more investment at a given tax revenue level, and more tax revenue at a given investment level. The impact of the income tax of a foreign company partly depends on how the income of the company is treated in the parent country. *Provided that a parent country exempts incomes earned abroad, cash flow taxation may be more advantageous* as an income tax may distort choices of companies and may provide less investment for the receiving country if tax burdens are increased. In some cases a parent country does not exempt incomes earned abroad, but allows the company to avail of tax credits (offsetting). Under such circumstances *paying income tax* on sums transferred home is more advantageous, because the tax credit of the company makes investment possible irrespective of the tax system of the receiving country, while cash flow taxation would open a distortion opportunity between the tax paid in the receiving country and the tax credit accepted in the parent country. *One major argument against CFTs is that other commercial partners (countries and regions) are not applying it.* If a country introduced cash flow taxation with rates higher than those in other countries, several problems could possibly arise.<sup>33</sup>

*Firstly*, easily deductible, depreciable fixed costs are “prone” to be shifted to countries offering the most attractive tax incentives. A company under cash flow taxation may even lease its capital goods purchased in an environment that is advantageous from the point of view of taxation to its parent company or a subsidiary located in a country where less advantageous investment incentives are offered. In such sense, cash flow taxation may discourage investors.

*Secondly*, if interest rates are not deductible at all – or if deductibility is limited to real interest rates – a company may decide to provide a loan for its associated businesses in countries where nominal interests are deductible. Then, the debt can also be used to finance capital

acquisitions, and to conduct intercompany transactions for further tax avoidance. That typically favours large companies with better access to international capital markets.

*Thirdly*, if tax rates are higher than in other countries, it may motivate multinational companies to underprice their export goods especially when sold to foreign partner companies. Payments of interests, royalties, rental fees and leasing fees between parent companies and their subsidiaries also enable companies to transfer their profits to countries with lower taxation.

We can see that *the problems of transfer pricing* cannot be eliminated by implementing source-based cash flow taxation. From this point of view, destination-based CFTs can be regarded as more effective. However, *arbitrage opportunities* are also affected by how incomes earned abroad are taxed in the parent country because if foreign taxes are fully credited in the parent country, companies are unable to exploit the tax rate differences. Then operating transfer prices may also be rendered unnecessary.

*Cash basis taxation may also be made to serve the unification of currently very different taxation systems, even at EU level.* ASE taxation does not impose any taxes at company level, thus it would render uniform tax accounting unnecessary, which would lead to the substantial reduction of compliance costs. Supposing that natural persons' choices of domicile do not react (so) flexibly to tax rate diversity, in the case of an ASE-type taxation, permanent tax rate differences within the EU would not significantly influence decisions regarding the location of company premises.<sup>34</sup> However, the unification of taxation at individual level would be a hard to implement solution because personal income taxes – as the strongest of strongholds of tax sovereignty – have always been strictly the concern of national tax authorities, and they still are.

The biggest problem relating to cash flow taxes is that for want of experience it is almost

impossible to foresee what administrative and other difficulties might arise in the course of their operation. The introduction of the value added tax needed several decades of preparation, and, based on the experience gathered, it is still being perfected. If *uncertainty* is a cost element in economic decisions, then that factor may represent the heaviest cost of cash flow taxation.

## THE EFFECT OF CFTS ON TAX REVENUES

CFTs – supposing that tax rates remained unchanged – *are very likely to reduce the corporate tax revenues of the budget*. As no cash flow taxation imposes a tax on normal return on equity (taxing only business profits), cash flow yields a lower tax base than the income tax.<sup>35</sup> Moreover, as R-CFT, unlike the traditional corporate tax, virtually exempts interest revenues from taxation, the real cash flow tax base becomes even smaller. Consequently, in order to keep tax revenues at their current level it may become necessary to raise tax rates.<sup>36</sup> However, according to Becker & Fuest,<sup>37</sup> the implementation of this kind of a consumption tax would only cause a slight decrease in state tax revenues. It is also necessary to take into account that in the case of source-based CFTs, higher legal tax rates encourage profit transfers. *While S-CFTs do alleviate the fluctuation of tax revenues* – by including financial cash flows in the tax base – *they may increase its uncertainty* because they insert more tax avoidance opportunities into the system (through financial transactions).

## SUMMARY

*The main advantage of the traditional corporate tax* is that – as a prevailing form of corporate taxation – its principles and rules are widely known

and accepted internationally. It provides a lot of influencing opportunities for governments, and may yield relatively stable budgetary revenues.

## Limitations and disadvantages of the traditional corporate tax<sup>38</sup>

The rules of the depreciation of tangible fixed assets, together with timing sensitivity, generate substantial taxation *compliance costs*. Also, tax regulations that make structural changes and property transfer possible increase the complexity of the system. Traditional corporate taxation handles own and external funds differently, thus it is *not neutral in view of financing decisions*. Most taxation systems tax ploughed back and distributed profits differently. If the profits tax treats *various forms of tax payers differently*, it may influence the choice between them. Traditional corporate taxation may have a distorting *effect on the size and range of investments*, and may have an effect on investment project types. It tends to generate *tax competition*, and may affect the location of tax bases. It imposes taxes on the yields of savings, thus *it may have an effect on intertemporal decisions*. There are significant differences between corporate tax regulations in different countries, as well as between national and international tax regulations. Also, corporate profit taxation makes political manipulations possible.

## Possible advantages of cash flow corporate taxation

It may be easier for companies and tax authorities to assess tax bases. Also, cash flow taxation may be characterised by simplified administration, unambiguous regulations, easier execution and *lower compliance costs*. Another advantage of CFTs is that the so-called “profit on paper” is not taxable. *They do not distort investment*

decisions; neither do they affect the size and range of investments. Normal profit is not taxable; there is no tax wedge between pre-tax and after-tax normal return on investment. They treat equity and loan financing neutrally, do not distort the choice between (interior and exterior) forms of equity. R-CFTs have no effect on the choice between profit retention and dividend payment. Destination-based cash flow taxation has a smaller effect on the location of capital and profit, and may thus alleviate transfer pricing problems. Under an R-based CFT, the significance of thin capitalisation issues may become lower. Under an S-based CFT, tax free interests ensure the tax neutrality of intertemporal decisions, while ASE creates the opportunity to treat different corporate and non-corporate forms in the same manner.

### Possible disadvantages and limitations of cash flow corporate taxation

Full scope cash flow-based corporate taxation has not been implemented, thus practical experience is, as yet, lacking.

It is a typical feature of CFTs that purchases of tangible fixed assets are immediately deductible, which greatly encourages tax avoidance. A cash flow tax may result in the striking unevenness of tax obligations, and a larger fluctuation of tax revenues, thus constituting a larger tax risk for the government. Under destination-based CFTs it may be necessary to monitor borders. As a source-based tax form, cash flow taxation may be sensitive to foreign tax competition. R-based CFTs do not only require surplus administration in order to differentiate between real and financial cash flows, but as a result, also create abuse opportunities. S-CFTs may motivate the ploughing back of the profit, which may have an unfavourable consequence, i.e. the so-called capital locking effect, and may cause taxpayers to delay tax payment through credit transactions. Another issue that should not be underestimated is that the introduction of a cash flow tax would require complicated and very special switching regulations, which would create a transitional period with numerous uncertainties. (See Table 1)

Table 1

#### MAIN CHARACTERISTICS OF THE CORPORATE TAX AND CASH FLOW TAXES<sup>39</sup>

	CIT	R-CFT	S-CFT
Basis of tax settlement	Total profit of the company	Net cash inflow of real processes	Net cash inflow from real and financial processes = net cash outflow from share transactions
Main difference (compared to CIT)	—	Net interest expenditures are not deductible.	Tax payment obligation only on distributed net dividends (usually < increase of share capital)
In accordance with the source (origin) principle	Exemption of profits from foreign sources	Treatment of export and import in the same way as domestic sales and purchases	Dividends from abroad and share investments abroad are not part of the cash flow
In accordance with the destination principle	Taxable worldwide income, but taxes paid abroad are deducted	Exclusion of export revenues and import payments from cash flow	Deduction of results of foreign equity interests from the tax base

APPENDIX

MODEL-LIKE COMPARISON OF THE IMPACT OF R AND S-BASED CFTS ON INVESTMENTS<sup>40</sup>

Imagine a two-part investment project, whose tangible fixed asset purchases are completed in Period 1, costing 1 unit. The income of the project is received in Period 2 in the form of revenue of an amount of  $(1+p)$ . Assets have no subsequent realisable value. To keep it simple, it is also a condition that producing the income of Period 2 needs no further input. The investment can be equity-financed (in that case, equity from the equity market and equity acquired through self-financing are not differentiated between), or credit-financed – at the effective market interest rate  $r$ . The opportunity cost of the equity is also  $r$  as the investor could invest in credit products prior to or instead of the project. Within the financing of the project, let credit ratio be  $\alpha$  (and equity ratio  $1-\alpha$ ), where  $1 > \alpha > 0$  is a given (ignoring the fact that the optimal source structure is mostly determined by the investor's profit maximising efforts). The cash flows of the project in the two periods are summarised in Table 2.

*In a world exempt from taxes, it would work out as follows.*

Table 2

<b>CASH FLOWS OF A TWO PERIOD PROJECT, IF THERE ARE NO TAXES</b>		
Name	Period 1	Period 2
<i>v Real transactions</i>		
Purchase of tangible fixed assets	-1	
Revenues		$1+p$
Total		$1+p$
<i>Financial transactions</i>		
Taking out credits	$\alpha$	
Credit repayment		$-\alpha$
Interest payment		$-\alpha \times r$
Total	$\alpha$	$-\alpha \times (1+r)$
<i>Grand total</i>	$-(1-\alpha)$	$(1-\alpha) + (p-\alpha \times r)$

As a result of the net cash payment  $(1-\alpha)$  of the project in Period 1 as a real investment (which is naturally equivalent to the amount of the equity), a net income of the amount of  $[(1-\alpha) + (p-\alpha \times r)]$  is created in Period 2. We can see that the surplus income over the return of the project is the same as Component 2 of that revenue. Based on that, the estimated return rate ( $v$ ) of the project is:

$$(1) \quad v = \frac{(1-\alpha) + (p-\alpha \times r)}{1-\alpha} - 1$$

$$v = \frac{p-r}{1-\alpha} + r$$

Equation (1) clearly illustrates that the return rate is composed of the sum of two components. Its first component is the yield relating to the surplus income over the opportunity cost of the equity, while the second component is the rate of the opportunity cost itself. Any time a surplus

profit or income is generated (i.e.  $p > r$ ),  $v$  can be increased by raising the credit ratio ( $\alpha$ ). Naturally, in reality, investors set an upper limit to the extent of credit financing. In a competitive economy exempt from taxes, a planned project is possible to undertake up to the point where  $p$  reaches the level of  $r$ . In other words, the characteristic of a project – which has reached this limit – is:  $p = r$ . Below, I wish to demonstrate the effects of taxes. Let the tax rate be  $t$ . For reference, the next step of my examination concerns the traditional corporate income tax.

### The traditional corporate income tax

In this system interest expenditure and the depreciation of tangible fixed assets ( $d$ ) are deductible from the tax base. Depreciation ( $d$ ) is not necessarily equivalent to the actual loss of value (actual wear and tear) of assets. (See Table 3)

Table 3

**CASH FLOWS OF A TWO PERIOD PROJECT UNDER CIT**

Name	Period 1	Period 2
<i>Calculation of the tax base</i>		
Revenues	$1+p$	
Deductible expenses		
Interest		$-\alpha \times r$
Depreciation		$-d$
Taxable income		$(p-\alpha \times r)+(1-d)$
Tax due		$t \times [(p-\alpha \times r)+(1-d)]$
After-tax net cash flow	$-(1-\alpha)$	$(1-\alpha)+(1-t) \times (p-\alpha \times r)-t(1-d)$

After-tax net cash flow in the first period equals the former amount as the purchases of tangible fixed assets have no tax consequences here, while the net cash flow in the second period can be determined based on the following deduction:

$$\text{Revenue} - \text{credit repayment and interest payment} - \text{tax payment} = 1+p-\alpha \times r-t \times [(p-\alpha \times r)+(1-d)] = (1-\alpha) \times (1+p-\alpha \times r) + p-\alpha \times r-t \times (p-\alpha \times r)-t \times (1-d) = (1-\alpha) + (1-t) \times (p-\alpha \times r)-t \times (1-d)$$

Under CIT, the after-tax return rate ( $v_c$ ) is:

$$(2) \quad v_c = \frac{(1-\alpha) + (1-t) \times (p-\alpha \times r) - t \times (1-d)}{1-\alpha} - 1 = (1-t) \times \left( \frac{p-r}{1-\alpha} + r \right) - t \times \frac{1-d}{1-\alpha}$$

(calculation based on cash flows).

Based on Equation (2), it can be stated that the traditional corporate income tax does not only tax the surplus profit but also the opportunity cost (normal return) of equity. From the comparison of Equations (1) and (2) one can deduct the difference of the pre-tax and after-tax return rates (3):

$$(3) \quad v - v_c = t \times \left( v + \frac{1-d}{1-\alpha} \right)$$

The equation highlights the role of depreciation in affecting the profitability (the tax base) and the tax of the project: the pre-tax return rate is necessarily higher than the after-tax return rate as



long as the depreciation taken into consideration when determining the tax base does not exceed the actual economic depreciation (i.e.  $1 \geq d$ ). The value of  $d$  substantially exceeding 1 unit might have the same effect as if the investor were granted an investment allowance serving as a tax incentive. If the depreciation that can be taken into account for taxation equals economic depreciation ( $d = 1$ ), the tax wedge can be determined as the pre-tax return rate, which precisely equals the tax rate:  $t = (v - v_c)/v$ , which result is well-known in the relevant expert literature.

### R-based cash flow tax (R-CFT)

Table 4

<b>CASH FLOWS OF A TWO PERIOD PROJECT UNDER R-CFT</b>		
Name	Period 1	Period 2
<i>Calculation of tax</i>		
Pre-tax cash flow from real transactions	-1	$1+p$
Tax <sup>41</sup>	- $t$	$t(1+p)$
After tax net CF <sup>42</sup>	$-(1-\alpha-t)$	$(1-\alpha)+(p-\alpha \times r)-t \times (1+p)$

In this case, the after-tax return rate is ( $v_R$ ):

$$(4) \quad v_R = \frac{(1-\alpha) + (p-\alpha \times r) - t \times (1+p)}{1-\alpha-t} - 1 = \frac{(1-t) \times (p-r)}{1-\alpha-t} + r$$

The relationship (4) clearly illustrates an important feature of R-CFT, i.e. that it only imposes a tax on the profit surplus; which also means that if a project that has reached the limit did not have a tax burden to bear, METR would be zero then. Also, Equation (4) demonstrates that if the investor can also avail of credit financing ( $\alpha > 0$ ), then R-CFT might have the same effect as if the project were subsidised. To determine the possible subsidy elements, deducting “ $v$ ” from “ $v_R$ ”, we receive the following result:

$$(5) \quad v_R - v = \frac{t \times \alpha \times (p-r)}{(1-\alpha-t) \times (1-\alpha)} > 0, \quad \rho > r$$

For any project to yield a surplus profit, the return rate after tax under R-CFT has to be higher than the yield which is characteristic of the tax-free environment. That is necessary because the prohibition of interest deduction does not fully counterbalance the advantage relating to expenditures. The above potential subsidy element can be easily neutralised: instead of granting a tax credit in Period 1, as a result of expenditures, the tax credit can be simply deferred at interest rate  $r$ . In other words, the net cash-outflow of Period 1 is restored ( $1-\alpha$ ), while the net cash-inflow of Period 2 is increased by [ $t(1+r)$ ]. After that the after-tax yield rate is:

$$(6) \quad v_R = \frac{(1-t) \times (p-r)}{1-\alpha} + r$$

We can see that a modified R-CFT always places a tax burden of rate  $t$  on any investment yielding a surplus profit.

S-based cash flow tax (S-CFT)

Table 5

**CASH FLOWS OF A TWO PERIOD PROJECT UNDER S-CFT**

Name	Period 1	Period 2
<i>Calculation of tax</i>		
Pre-tax cash flow from all transactions = tax base	$-(1-\alpha)$	$(1-\alpha)+(p-\alpha \times r)$
Tax	$-t(1-\alpha)$	$t \times [(1-\alpha)+(p-\alpha \times r)]$
After tax net CF	$-(1-t) \times (1-\alpha)$	$(1-t) \times [(1-\alpha)+(p-\alpha \times r)]$

In Period 1, the net cash-outflow provides the investor with a tax credit, while in Period 2 a tax obligation is generated due to the net cash-inflow. In that case, the after-tax return rate is:

$$(7) \quad v_s = \frac{(1-t) \times [(1-\alpha)+(p-\alpha \times r)]}{(1-t) \times (1-\alpha)} - 1 = \frac{(p-r)}{1-\alpha} + r$$

which is equivalent to the result of Equation (1) received under the conditions of a tax free environment. Under such taxation, *the part the government has in investors' risk* is expressed even more markedly. Under S-CFT, similarly to R-CFT, the tax credit of Period 1 can be deferred – at interest rate  $r$  – to Period 2, counterbalancing the tax obligation imposed regarding that period. In other words, the net cash payment of Period 1 is restored  $(1-\alpha)$ , while tax credit may be redeemed with the amount of  $[t(1-\alpha)(1+r)]$  in Period 2, thus decreasing tax payment obligation to  $[t \times (p-r)]$  in that period. With such deferral of the tax credit, the after-tax return rate is:

$$(8) \quad v'_s = \frac{(1-\alpha)+(p-\alpha \times r) - t \times (p-r)}{1-\alpha} - 1 = \frac{(1-t) \times (p-r)}{1-\alpha} + r$$

(8) precisely equals the result received under R-CFT (6) through a similar tax credit deferral.

NOTES

<sup>1</sup> Mintz-Seade (1989)

<sup>8</sup> Mintz – Seade (1989)

<sup>2</sup> Hall – Rabushka (1995)

<sup>9</sup> Based on Boss (2004/13)

<sup>3</sup> Zee (2006)

<sup>10</sup> Auerbach – Devereux – Simpson (2007/50)

<sup>4</sup> OECD (2007)

<sup>11</sup> Zee (2006)

<sup>5</sup> Auerbach – Devereux – Simpson (2007)

<sup>12</sup> The cash flow taxation of financial institutions has been examined e.g. by Chris, R. E. & Peter, R. M. (1996), as well as English, M. & Poddar, S. (1997). A solution for the majority of the problems raised by them has been offered by proposing (R+F)-CFT, and its equivalent S-CFT: those types of CFT do not necessitate special tax regulations concerning financial institutions.

<sup>6</sup> DIT (dual income tax), which has been introduced in Belgium, and CBIT (comprehensive business income tax), which was applied e.g. in Croatia between 1994 and 2001 as an experiment, tax the full return on all capital investments (equity and loan capital).

<sup>7</sup> Wilson (2002/8)

- <sup>13</sup> ASE=Allowance for Shareholder Equity, suggestion regarding a deferred S-based tax.
- <sup>14</sup> Zee (2006/6)
- <sup>15</sup> Based on Boss (2004/13)
- <sup>16</sup> S-based tax has been called “Meade tax” since the issue the Meade Committee Report in the relevant literature.
- <sup>17</sup> Knirsch – Niemann (2007)
- <sup>18</sup> See Equations of (1) and (7) in the Appendix
- <sup>19</sup> effective marginal tax rate
- <sup>20</sup> effective average tax rate
- <sup>21</sup> Knirsch – Niemann (2007)
- <sup>22</sup> The proposed “Allowance for Shareholder Equity” (ASE-) tax, modelled on “Allowance for Corporate Equity” (ACE-) tax, often discussed in the relevant literature.
- <sup>23</sup> Devereux – Sorensen (2005/35)
- <sup>24</sup> In the relevant literature, examples of source-based corporate cash flow taxation include Hall & Rabushka's flat tax, Bradford's X tax, and Zodrow & McClure's two-rate progressive cash-flow tax. (OECD, 2007/4)
- <sup>25</sup> Zee (2006)
- <sup>26</sup> Auerbach – Devereux – Simpson (2007)
- <sup>27</sup> Losoncz (2006/484)
- <sup>28</sup> Meade (1978)
- <sup>29</sup> marginal effective tax rate
- <sup>30</sup> Zee (2006/18)
- <sup>31</sup> Boadway – Bruce (1984)
- <sup>32</sup> Losoncz (2006/480)
- <sup>33</sup> Based on Mintz – Seade (1989/187)
- <sup>34</sup> Knirsch – Niemann (2007/17)
- <sup>35</sup> Wilson (2002/5)
- <sup>36</sup> Knirsch – Niemann (2007)
- <sup>37</sup> Becker – Fuest (2005)
- <sup>38</sup> Drawing on Balogh (2004a, 2004b)
- <sup>39</sup> Zee (2006/4–5) felhasználásával
- <sup>40</sup> Based on Zee 2006/7–12
- <sup>41</sup> A tax obligation preceded by a minus sign represents tax credit.
- <sup>42</sup> Let's suppose that  $(1 - \alpha - t) > 0$ . Otherwise, there would be some net cash receipts originating from taxation in both periods, which is economically unrealistic.

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