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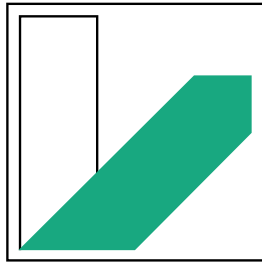
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Bayreuther Arbeitspapiere zu
Finanzierung, Rechnungslegung und Steuern

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and cross-border investments**

Frank Kramer

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Symmetric cash flow-taxation and cross-border investments

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Abstract: The discussion about income versus consumption as the ideal tax base looks back on a long history. In recent years, the debate about income versus consumption as the better tax base reemerged in the United States (2002) and in Germany (2006). In view of the long history of the debate, it is surprising that still relatively little research has been done on cross-border-investments in a cash flow-tax system. The presented article tries to fill this gap. For the case of a harmonized introduction of symmetric cash flow-tax systems in several countries, rules are developed that could guarantee a systematic and feasible treatment of cross-border investments. Preference is given to the RF-base-cash flow-tax on the personal level without a separate company tax. As a result the presented article states, that a coordinated introduction of symmetric cash flow-tax systems in several neighboring countries could be possible. To guarantee the success of the reform, each country must be willing to commit to intensive cooperation in tax matters. A unilateral introduction of a cash flow-tax and the resulting clash of a consumption-based tax system with an income-based tax system – the so-called collision-case – will be addressed in a following paper.

Zusammenfassung: Die Frage, ob das Einkommen oder der Konsum die vorzuziehende Bemessungsgrundlage bildet, weist eine lange Tradition auf. In der jüngeren Vergangenheit erlebte die Frage angesichts neuer Reformvorschläge in den USA (2002) und in Deutschland (2006) eine Renaissance. Angesichts der langen Historie der Diskussion überrascht es, dass die steuerliche Behandlung grenzüberschreitender Investitionen in einem Cash-flow-Steuer-System bisher kaum untersucht wurde. Der vorliegende Artikel versucht diese Lücke zu schließen. Für den Fall der Einführung gleicher Cash-flow-Steuer-Systeme in allen Ländern (Harmoniefall) werden Regelungen entwickelt, die eine systematische und durchführbare Besteuerung grenzüberschreitender Investitionen sicherstellen. Als betrachtetes Cash-flow-Steuer-System wird eine RF-base-Cash-flow-Steuer auf persönlicher Ebene ohne eigenständige Besteuerung auf Unternehmensebene herangezogen. Der vorliegende Artikel kommt zum Ergebnis, dass eine koordinierte Einführung gleicher Cash-flow-Steuer-Systeme möglich ist. Voraussetzung dafür ist allerdings eine enge Kooperation der Länder in Steuerfragen. Die unilaterale Einführung eines Konsumsteuersystems in einem einzelnen Land und das daraus resultierende Zusammentreffen von Konsumsteuersystem und Einkommensteuersystem – der sog. Kollisionsfall – werden in einem folgenden Beitrag untersucht.

JEL Classification: H21, H25, H87

Keywords: Cash flow-tax, consumption tax, international taxation, cross-border investments

Symmetric cash flow-taxation and cross-border investments

Frank Kramer

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I. Introduction

The discussion about income versus consumption as the ideal tax base looks back on a long history. One of the earliest pleas for consumption-based taxation can be found in Thomas HOBBS' "Leviathan" published in 1651.¹ More recent examples of consumption-based taxes include the "Flat Tax" proposed by Hall and Rabushka (1983)², the "X-Tax" presented by Bradford (1986)³, the "Cash Flow Income Tax" proposed by Aaron and Galper (1985)⁴, the "Hybrid Consumption Tax" that has been developed by McLure and Zodrow (1996)⁵ and the "Allowance for Corporate Equity" (ACE) which has been developed by the Institute for Fiscal Studies (1991).⁶ In recent years, the debate about income versus consumption as the better tax base reemerged in the United States (2002)⁷ and in Germany (2006)⁸. In spite of this long history of scientific discussion and the great number of proposed reform models, even today the scientific debate is still undecided. In the end, a decision in favor of an income tax base or in favor of a consumption tax base depends on a preceding decision about the preferable indicator of an individual's so-called "ability to pay". The starting-point of this article assumes that this preceding assessment is made in favor of consumption.

In view of the long history of the debate, it is surprising that still relatively little research has been done on cross-border-investments in a cash flow-tax system. Considering the permanently growing interdependence of national economies, every discussion about the superiority of a cash flow-tax without looking at the international tax consequences appears quite incomplete.

The presented article tries to fill this gap. For the case of a harmonized introduction of symmetric cash flow-tax systems in several countries, rules are developed that could guarantee a systematic and feasible treatment of cross-border investments.

To achieve this objective, this article shows – in addition to this introduction – the following structure:

¹ See Hobbes, T., Leviathan [1651], German version from Mayer, J. (1990), p. 287.

² See Hall, R./Rabushka, A., Flat Tax (1983).

³ See Bradford, D., X-Tax, in: Rose, M. (ed.), *Konsumorientierte Neuordnung* (1991), pp. 175 et seqq.

⁴ See Aaron, H. J./Galper, H., *Assessing Tax Reform* (1985).

⁵ See McLure, Ch./Zodrow, G., Hybrid Consumption Based Tax (*International Tax and Public Finance* 1996), pp. 97 et seqq.

⁶ See Institute for Fiscal Studies, *Equity for Companies* (1991).

⁷ See Economic Report of the President (2003), pp. 175 et seqq.

⁸ See for example Elicker, M., *Theorie vom Einkommen*, (DStZ, 2005), p. 564 et seqq.

- The first chapter provides an overview of the different models of a consumption-based tax. The article concentrates on the "pure form" of a personal consumption tax – the RF-base-cash flow-tax (I).
- This overview of alternative models of consumption-based taxation is followed by some brief general comments about taxation of cross-border investments (II).
- In the so-called harmony case, all countries have adopted a similar cash flow-tax system. The objective of the third chapter is to show that it is possible to develop rules that, on the one hand, encompass the rights of taxation of the involved countries, and on the other hand, address the problem of international double taxation (III).
- The article ends with a summary of the most important conclusions.

A unilateral introduction of a cash flow-tax and the resulting clash of a consumption-based tax system with an income-based tax system – the so-called collision-case – forms no part of this article. This very important question and its consequences will be addressed in a following paper.

II. Different forms of consumption-based taxation

A. Overview

Almost every human action is accompanied by tax consequences.⁹ The means used for consumption purposes must be earned and adapted to the desired time path of consumption by additional investments and financings. The following figure illustrates these basic connections:

⁹ See Sigloch, J., "Bauelemente", in: Böhler, H. et al. (ed.), *Mittelstand und Betriebswirtschaft* (1996), p. 219.

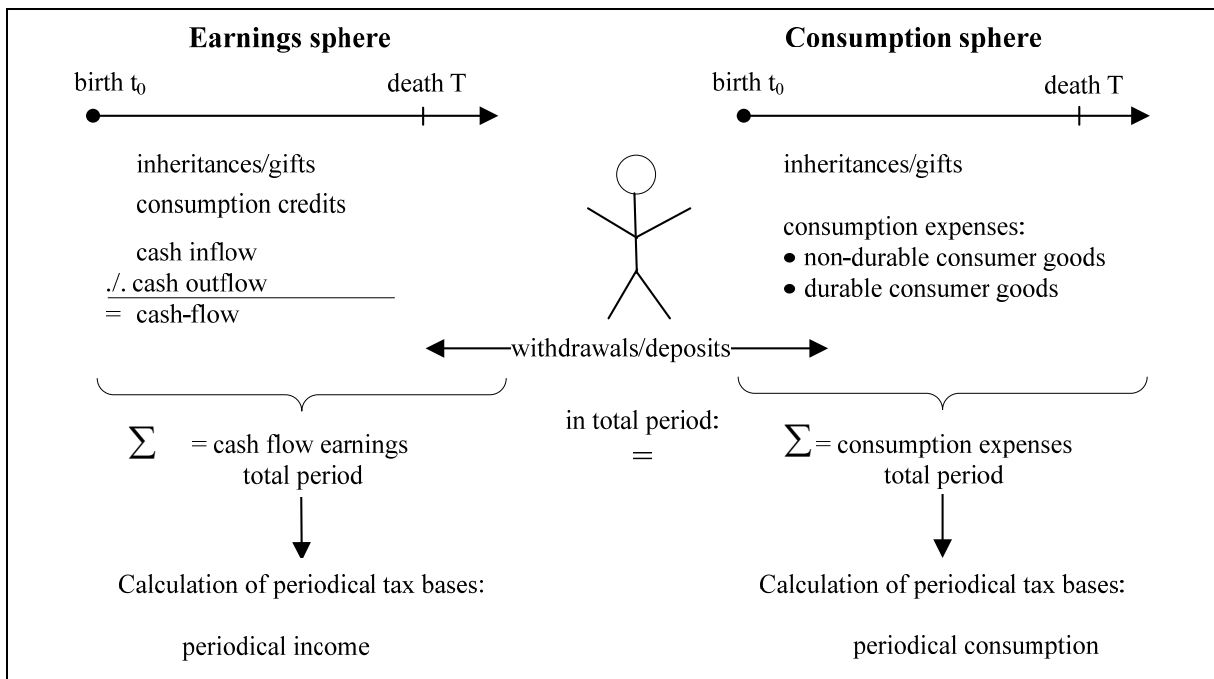


Figure 1: Cash flow earnings and expenses

Taxation occurs both in the "earnings sphere" and in the "consumption sphere". At the center of this article are the concepts of consumption-based taxation on the personal level of the consuming individual.¹⁰ The most obvious alternative might be the direct bookkeeping of personal consumption expenses. Considering the practical difficulties and the necessary fiscal control to enforce this tax model, it does not seem to be a feasible alternative. For this reason, no seriously taken reform proposal has considered the direct recording of personal consumption as a realistic option.¹¹

The only feasible way to compute the consumption tax base on the personal level is based on the personal cash flow in the earnings sphere. The personal cash flow results from the addition of all cash inflows and the subtraction of all cash outflows except for consumption expenses. The personal cash flow can be used for consumption or for a change in the personal cash balance. With the RF-base-cash flow-tax ("full fledged cash flow-tax" that includes all cash flows)¹², the R-base-cash flow-tax ("incomplete cash flow-tax" that excludes the financial cash flows)¹³ and an income tax with an allowance for equity (ACE-Tax, which was

¹⁰ The value added tax is a different form of consumption based taxation. It taxes the inflows from the sale of goods or services to the final consumer on the level of the supplier.

¹¹ See Kaldor, N., *Expenditure Tax* (1955), p. 191; Peffekoven, R., *Ausgabensteuer*, in: Neumark, F. (ed.), *Handbuch der Finanzwissenschaft*, Volume II (1980), p. 420; Graetz, M., *Consumption Tax* (Harvard Law Review 1979), p. 1580.

¹² First mentioned in the literature was the RF-base-cash flow-tax by Meade Committee, *Structure and Reform of Direct Taxes* (1978), p. 231.

¹³ First mentioned in the literature was the R-base-cash flow-tax by Brown, C., *Business Income Taxation*, in: Metzler, L. (ed.), *Income* (1948), pp. 300 et seqq.

in place in Croatia from 1996 to 2001)¹⁴, three basic models for consumption-based taxation exist.

The ACE-Tax takes on a somewhat special role. The period of taxation differs to a large extent from the period in which the cash flow occurs. This timing difference can – under some strict assumptions – be reversed in respect to its consequences on the net present value. The "instrument" to achieve this result is the so-called allowance for equity (= interest rate multiplied by equity book value less cash), which has to be subtracted from the accrued income.¹⁵

The following figure imparts an overview of the different forms of consumption-based taxation in the earnings sphere:

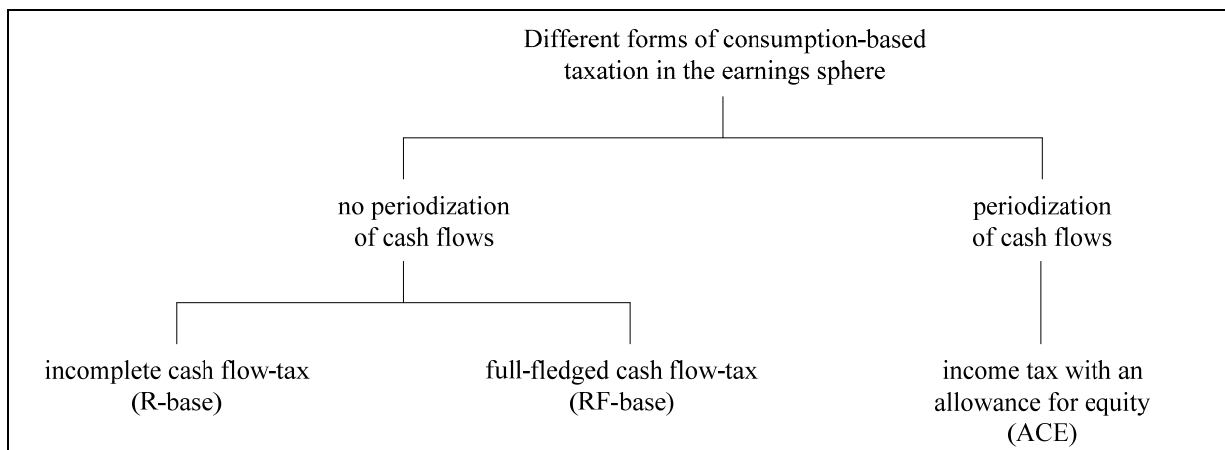


Figure 2: Different forms of consumption-based taxation in the earnings sphere

Among these, the RF-base can be regarded as the purest form of a personal consumption tax.

B. RF-base-cash flow-tax as the preferable alternative

Pros and contras of these three types of consumption-based-tax-systems in the closed-border case are extensively discussed in existing literature.¹⁶ It is not intended to summarize all quoted arguments. Nevertheless, a short review shall confirm the author's preference for the RF-base-cash flow-tax without an independent tax at the corporate level:

¹⁴ See Keen, M./King, J., *Croatian Profit Tax* (Fiscal Studies 2002), p. 417; Wagner, F. W./Wenger, E., *Theoretische Konzeption*, in: Sadowski, D. et al., *Unternehmenspolitik* (1996), pp. 399 et seqq.

¹⁵ See Preinreich, G., *Valuation* (The Accounting Review 1937), p. 220 et seqq.; Wenger, E., *Gleichmäßigkeit der Besteuerung* (Finanzarchiv 1983), p. 229 et seqq.; Boadway, R./Bruce, N., *Neutral Business Tax* (Journal of Public Economics 1984), pp. 231 et seqq.

¹⁶ For a summary see Kramer, F., *Unternehmensbesteuerung durch Cash flow-Steuer* (2007), pp. 181 et seqq.

- (1) The RF-base-cash flow-tax is targeted at taxing personal consumption. The R-base-cash flow-tax and the ACE-Tax are equivalent to a RF-base-cash flow-tax only under very strict assumptions.¹⁷ The equivalence between the ACE-Tax and the RF-base-cash flow-tax remains valid only under the unrealistic assumption of a perfect capital market.¹⁸ Only in such a model world can the effects of taxation on liquidity be neglected and is the time of paying the tax irrelevant.
- (2) The incomplete cash flow-tax (R-base) holds for financial investments an "ex-ante-view" of equity. Comparing a lucky and an unlucky investor clearly indicates that demand for an equitable tax system can only be based on an "ex-post-concept" of equity.¹⁹
- (3) Under the well-known assumptions of the perfect capital market, decision neutrality is achievable with each of the three concepts.²⁰
- (4) Cash flow-taxes are inherently simpler than income taxes because they are calculated on a cash flow basis rather than on an accrual basis. All difficult timing issues – responsible for a great part of the problems of the present income tax – would disappear under a cash flow tax.²¹ The difficulties associated with an incomplete cash flow tax of the R-type are caused by the necessary separation of real investments from financial cash flows. In reality, this dividing line could not be drawn satisfactorily. It would probably be impossible to prevent excessive abuse occurring as tax avoidance and tax evasion activities.²² The "Achilles Heel" of the ACE-Tax is the necessary fixing of the interest rate, which is used to calculate the equity cost of capital. Only by chance would it be

¹⁷ The equivalence of RF-base and R-base are extensively discussed in the literature. See for example Graetz, M., Consumption Tax (Harvard Law Review 1979), pp. 1598 et seqq.; Warren, A., Personal Income Tax (Harvard Law Review 1975), pp. 938 et seqq.; Andrews, W., Personal Income Tax: Reply (Harvard Law Review 1975), pp. 953 et seqq.; Seidl, Ch., Administration Problems, in: Rose, M., Taxing Consumption (1990), p. 419; Goode, R., Income Tax, in: Pechman, J. (ed.), Income or Expenditure? (1980), pp. 60 et seqq.; Bradford, D./U.S. Treasury Tax Policy Staff, Blueprints (1984), pp. 110 et seq. and pp. 115 et seqq.; Ahsan, S./Tsigaris, P., Prepayment Approaches, in: Ahlheim, M. et al. (ed.), Steuerpolitik (2003), pp. 237 et seqq.; Zodrow, G., Uncertainty (Journal of Public Economics 1995), pp. 257 et seqq.

¹⁸ For the equivalence of RF-base and ACE-Tax see Heinhold, M./Hüsing, S./Pasch, H., Investment Neutrality (Schmalenbach Business Review 2000), pp. 270 et seqq.; Kramer, F., Unternehmensbesteuerung durch Cash flow-Steuer (2007), pp. 165 et seqq.

¹⁹ For this discussion see Graetz, M., Expenditure Tax Design, in: Pechman, J. (ed.), Income or Expenditure? (1980), pp. 170 et seq.; Minarik, J., Conference Discussion, in: Pechman, J. (ed.), Income or Expenditure (1980), p. 309; Bradford, D./U.S. Treasury Tax Policy Staff, Blueprints (1984), pp. 115 et seq.; Bradford, D., Untangling the Income Tax (1986), pp. 167 et seqq.; Kramer, F., Unternehmensbesteuerung durch Cash flow-Steuer (2007), pp. 145 et seqq.

²⁰ See Schwinger, R., Einkommens- und konsumorientierte Steuersysteme (1992), p. 35; Kramer, F., Unternehmensbesteuerung durch Cash flow-Steuer (2007), pp. 149 et seqq. and 174 et seqq.; Wenger, E., Einkommensteuerliche Periodisierungsregeln. Teil I (ZfB 1985), p. 724; Kiesewetter, D., Zinsbereinigte Einkommen- und Körperschaftsteuer (1999), p. 37.

²¹ See Schneider, D., Steuerbilanzen (1978), p. 26 et seq.; Andrews, W., Cash Flow Personal Income Tax (Harvard Law Review 1974), p. 1149 and p. 1152; Meade Committee, Structure and Reform of Direct Taxes (1978), p. 186.

²² See Kramer, F., Unternehmensbesteuerung durch Cash flow-Steuer (2007), pp. 151 et seqq.

rated at the theoretically correct level.²³

- (5) Retained earnings are systematically tax-free in a consumption-based tax system. As a consequence, any kind of independent taxation at the corporate level must be regarded as an inappropriate element in a consumption-based tax system.²⁴

Based on these arguments – that are far from complete, but contain the main aspects – and in spite of the far-reaching consequences and the necessity of a thorough reform of the present income tax system, preference is given to the RF-base-cash flow tax on the personal level without a separate company tax.

III. Cross-border investments

A. Overview

The decision about the kind of tax system – income-based or consumption-based – has naturally outstanding importance for the taxation of cross-border investments. The following table depicts the possible combinations in a two-country-model:

		Country of residence	
		Income tax	Cash flow-tax
Source country	Income tax	Income tax – Harmony-case	Collision case
	Cash flow-tax	Collision-case	Cash flow-tax – Harmony-case

Figure 3: Harmony and Collision case

The following chapter concentrates on the harmony-case of bilateral cash flow taxation. Both countries have introduced the same cash flow-tax system. This could be described as bilateral symmetric cash flow taxation.

²³ See Kramer, F., Unternehmensbesteuerung durch Cash flow-Steuer (2007), p. 178.

²⁴ See Kaldor, N., Expenditure Tax (1955), p. 146; Elschen, R., Institutionale oder personale Besteuerung (1994), pp. 357 et seq.; Graetz, M., Expenditure Tax Design, in: Pechman, J. (ed.), Income or Expenditure? (1980), p. 240 und p. 245; Lodin, S.-O., Expenditure Tax (1978), p. 83; Bradford, D./ U.S. Treasury Tax Policy Staff, Blueprints (1984), p. 120 et seq.; Meade Committee, Structure and Reform of Direct Taxes (1978), p. 248.

B. Taxation of cross-border investments – some basic remarks

Every tax system needs rules to determine the subject of tax and the extent of tax liability. At present in most countries, the rules can be described as follows:²⁵

	Country of residence	Source country
Subject of tax	Personal connection by residence Resident taxpayer	Economic connection by earning income Non-resident taxpayer
Extent of tax liability	Unrestricted tax liability Worldwide income	Restricted tax liability National income

Figure 4: Assessing tax liability in the existing income tax systems

As a consequence of the conflicting taxation powers for cross-border investments, international double taxation is inevitable. Unilateral measures or double-taxation agreements should avoid or alleviate this over-taxation of international economic activities:

- The foreign tax-credit-method is probably the most common approach. In the first step, the foreign tax base is included without any deduction of foreign taxes paid in the worldwide tax base in the country of residence. As a second step, the foreign tax is credited against the home country tax. Normally, only a limited foreign tax credit is granted.²⁶ Foreign taxes are only creditable up to that amount of the home country tax that falls on the foreign tax base.
- Applying the exemption method, the country of residence completely omits the tax base realized in a foreign country.

This article focuses on equity-financed investments in a foreign corporation and assumes that a natural person makes these investments.

C. Principles of taxation in an open economy

The evaluation of taxation rules requires the development of assessment criteria. In this article, these criteria are based on the so-called "holy trinity" of the classic taxation principles:

²⁵ See Schmidt, L./Sigloch, J./Henselmann, K., *Internationale Steuerlehre* (2005), pp. 90 et seq.

²⁶ See Jacobs, O., *Internationale Unternehmensbesteuerung* (2002), pp. 13 et seq.

Equity, Simplicity and Neutrality.²⁷ These criteria must be interpreted and shaped in regard to international aspects:²⁸

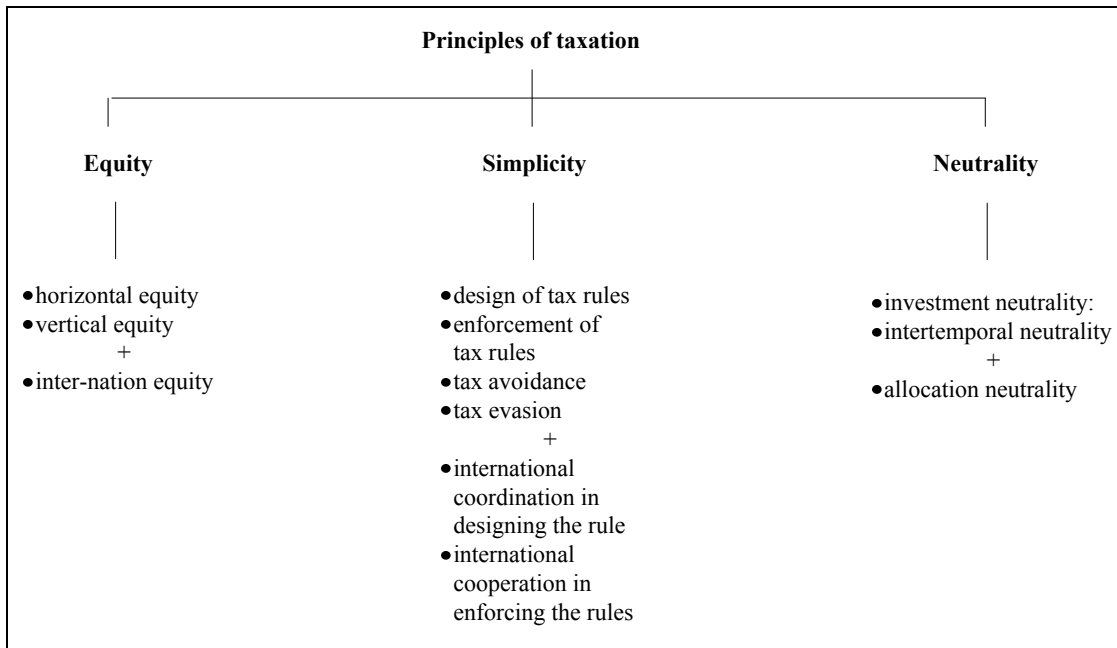


Figure 5: Principles of taxation in an open economy

Taxing the worldwide tax base of an individual in his country of residence is a widely accepted approach to achieve a horizontally equitable tax system. In order to avoid double taxation, the country of residence must ideally grant an unlimited foreign tax credit. Taking fiscal aspects into account, the unlimited foreign tax credit is normally not a feasible solution for the residence country and only a limited tax credit is granted. In such a case, at least a carry forward of excess foreign tax credits at the "normal" rate of interest must be allowed. A theoretically correct answer to the question of a "fair" distribution of tax revenue between the residence country and the source country, especially when economic relations between the two countries are imbalanced, does not exist. From the point of view of the desired decision neutrality of a tax system the presented article puts the main emphasis on the decision about investment location, which should not be influenced by tax considerations (allocation efficiency or so-called capital export neutrality). To decide if the criteria of equity and decision neutrality about investment location are met, it is necessary to compare the investor's

²⁷ See Neumark, F., Grundsätze (1970), pp. 47 et seqq.; Haller, H., Die Steuern (1981), pp. 12 et seq.; Krause-Junk, G., International Tax Coordination, in: Rose, M., Taxing Consumption (1990), p. 495; Musgrave, P., Fiscal Coordination, in: Eden, L./Shoup, C. (ed.), Retrospectives (1991), pp. 281 et seqq.

²⁸ In the following figure the criteria especially valid for taxation in an open economy are separated by the sign "+".

possible consumption in the closed-border case with his position in the case of a cross-border investment.

IV. Harmony case

The objective of the third chapter is to develop rules for the taxation of cross-border investments in a world of symmetric cash flow tax systems. The rules shouldn't violate the criteria established in the previous chapter.

A. Assumptions for the model calculations

To analyze the consequences of cross-border-investments in the harmony-case of symmetric cash flow-taxation, a two-period model is sufficient. The following assumptions are necessary:

- In the closed-border case and in the cross-border case, the cash flow connected to the investment remains unchanged.
- Repatriated cash flows are immediately consumed in the country of residence.
- The interest rate on the capital market is 10 % in the country of residence as well as in the source country.
- The tax rate both in the country of residence and in the source country is fixed at 50 %.

The following table contains the resulting cash flows in the closed-border case:

	t₁	t₂
Initial earnings	100	
Investment	-100	120
Tax base	(0)	(120)
Tax payments	0	-60
Net-Cash flow	0	60

Figure 6: Closed-border case

B. Possible approaches to assess the tax liability in the country of residence and in the source country

1. Approaches in the country of residence

The following figure gives an overview of the different ways to assess the tax liability in the country of residence:

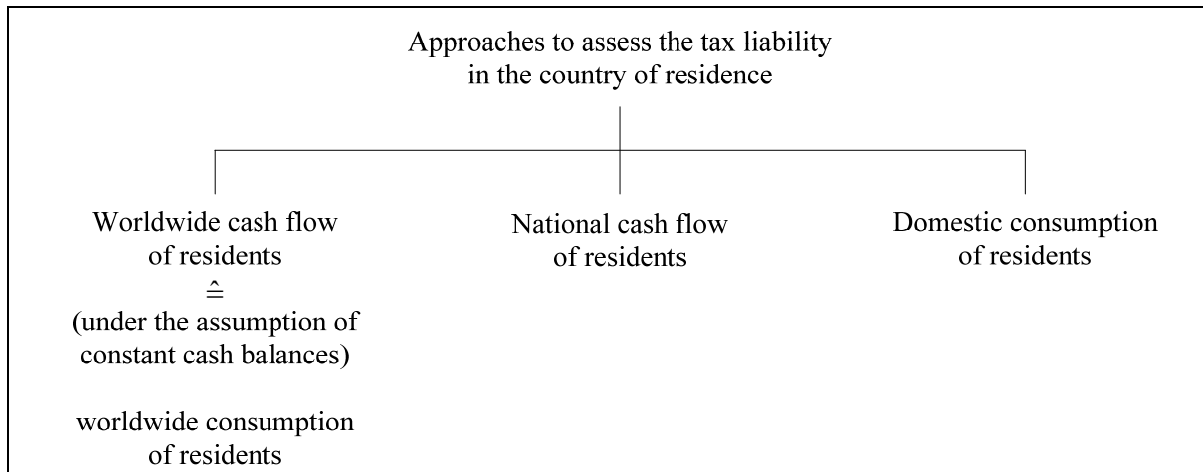


Figure 7: Approaches to assess the tax liability in the country of residence

The first possibility is to tax the **worldwide cash flow** of an individual in his country of residence.²⁹ Foreign investments must be treated like national investments and an immediate deduction of the investment outlay must be granted. Due to this immediate deduction, cross-border investments are made out of untaxed means, a fact that is completely justified in a cash flow-tax system. The country of residence temporarily renounces taxing the funds necessary to finance the foreign investment.³⁰ The cash return of the cross-border investment is only taxable in the country of residence at the time of repatriation and consumption.

As a second alternative, the right to tax of the country of residence could be limited to the **national cash flow**, excluding from the tax base every cash flow related to foreign investments.³¹ This means that expenses for foreign investments are not deductible from the

²⁹ See Graetz, M., Consumption Tax (Harvard Law Review 1979), pp. 1644 et seq.; Hines, J., Fundamental Reform in an International Setting, in: Aaron, H./Gale, W. (ed.), Fundamental Tax Reform (1996), pp. 490 et seq.; Genser, B.; International Tax Relations, in: Rose, M. (ed.), Taxing Consumption (1990), pp. 522 et seqq.

³⁰ See Krause-Junk, G., International Tax Coordination, in: Rose, M., Taxing Consumption (1990), p. 498.

³¹ See Ballard, Ch., International Aspects, in: Zodrow, G./Mieszkowski, P. (ed.), United States Tax Reform (2002), p. 119; Gammie, M., Reforming Corporate Taxation (British Tax Review 1992), pp. 161 et seq.; Zodrow, G./McLure, Ch., Direct Consumption Taxes in Developing Countries (Tax Law Review 1991), p. 481; Kay, J./King, M., British Tax System (1978), p. 203.

tax base and must be financed out of already taxed funds. In return, the cash-inflows of the foreign investment remain tax-free in the country of residence. Therefore, in the country of residence, the exemption method is applied for cross-border investments.

The third possibility is to limit the taxation of residents to their **domestic consumption** expenses. As already mentioned, the direct bookkeeping of personal consumption expenses is – due to its enforcement problems – in no way a feasible solution even in the closed-border case. Taking foreign investments and foreign consumption into account, the already mentioned arguments against this form of a consumption-tax appear even more convincing.³² But also the indirect method to compute national consumption – worldwide cash flow less foreign consumption – doesn't seem to be much easier to implement. The problem is the incapacity of the country of residence to check the taxpayer's information about his foreign consumption expenses. Tightening border controls to catch at least consumption goods bought outside the country at the time of repatriation does not seem to be a very promising approach considering the diminishing importance of national borders, especially in the European Union.

2. Approaches in the source country

The question of taxing non-residents must be addressed if non-residents earn cash flows or have consumption expenses outside their country of residence. This country is called the source country, although in the case of taxing national consumption this notion is a bit misleading. The following figure imparts an overview of possible approaches to assess the tax liability in the source country:

³² See Grambeck, H.-M., *Konsumbesteuerung* (2003), pp. 79 et seq.

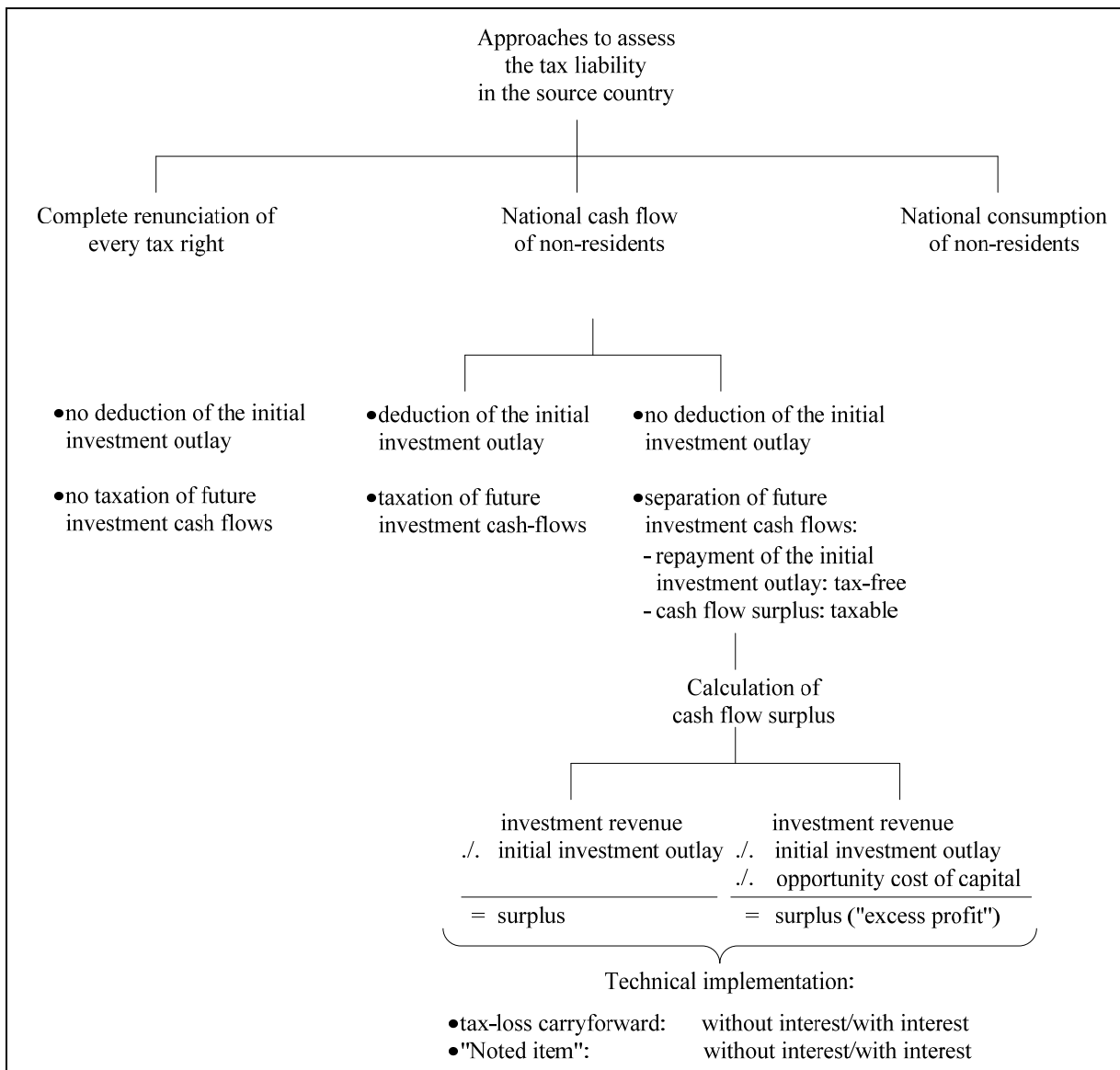


Figure 8: Approaches to assess the tax liability in the source country

The **complete renunciation** of every right to tax does not seem to be a very probable solution. Only if economic relations between two countries are quite balanced could a mutual agreement about the no-taxation of non-residents in both countries be thinkable. In regard to imbalanced economic relations and especially for capital importing countries, the renunciation to the right of taxing non-residents who earn national cash flows appears to be impossible.³³

Taxing the **national consumption** of non-residents would be in line with the basic idea of consumption-based taxation.³⁴ Excluding – due to good and already known reasons – the direct bookkeeping of consumption expenses, one way to compute national consumption in

³³ See McLure, Ch., *International Aspects* (The American Journal of Tax Policy 1990), p. 178; Gammie, M., *Reforming Corporate Taxation* (British Tax Review 1992), p. 161; Krause-Junk, G., *International Tax Coordination*, in: Rose, M., *Taxing Consumption* (1990), p. 503.

³⁴ See McDaniel, P., comment on Graetz, M., in: Pechman, J. (ed.), *Income or Expenditure?* (1980), p. 292.

the source country is subtracting consumption expenses made in the country of residence from the worldwide cash flow. The source country has no chance to collect the relevant data for this alternative. Additionally, the restriction to tax only national consumption must also be valid in the case of high positive cash flows of non-residents and immediate repatriation of these cash flows to their home countries. Without national consumption, the source country would earn no tax revenue from profitable investments within its borders. Capital importing countries would probably not accept this solution.³⁵

Assessing the right of the source country to tax the nationally earned Cash flow requires a further differentiation with regard to the term "**national cash flow**":

- **Pure Cash flow treatment:**

The source country could tax the inbound-investments from non-residents in accordance with a pure Cash flow approach. The investment outlay would be immediately deductible and in return the complete future cash inflows – including the return of the investment outlay – would be taxable. At the time of investment – lacking other domestic tax base in the source country – the source country would have to grant a tax repayment.³⁶

- **Taxing the Cash flow surplus over the investment outlay:**

To avoid the necessity of tax refunds to non-residents at the time of investment, the investment outlay – to the extent that it is financed with means earned outside the source country – must not reduce the tax base in the source country.

The tax base consists of the cash flow earned in the source country and taxation occurs at the time of repatriation of funds to the country of residence (or at the time of consumption in the source country). Given the non-reduction of the tax base through the initial outlay at the time of investment, the source country must not tax the whole repatriated cash flow. The repayment of the initial investment outlay must remain tax free. The necessary separation of the complete investment revenue in tax-free repayment of initial investment outlay and taxable revenue can be achieved by two alternative ways:

- The nominal amount of the initial investment outlay is deducted from the complete investment revenue.

³⁵ See Minarik, J., Conference Discussion, in: Pechman, J. (ed.), *Income or Expenditure* (1980), p. 317; Krause-Junk, G., *International Tax Coordination*, in: Rose, M., *Taxing Consumption* (1990), p. 502 and p. 503; Abbin, B./Gordon, R./Renfroe, D., *International Implications* (Tax Notes 1985), p. 1133.

³⁶ See Gammie, M., *Reforming Corporate Taxation* (British Tax Review 1992), p. 161.

- Following the general idea of a consumption tax – taxing only the inframarginal returns – not only must the original investment outlay be deductible in the source country, but also the opportunity cost of capital calculated at the "normal" rate of interest.³⁷

3. Interaction of taxation in the country of residence and the source country

Combining the remaining alternatives to assess the tax liability in the country of residence and in the source country, the following matrix of combinations can be developed:

		Country of residence		
		Worldwide cash flow (≈ worldwide consumption) of all residents	National cash flow of all residents (exemption method)	
Source country	National cash flow of non-residents	Pure cash flow treatment	I.	III.
		<ul style="list-style-type: none"> • No deduction of the initial investment outlay • Separating investment revenues in tax-free repayment of initial investment outlay and taxable "excess profit" 	II.	IV.

Figure 9: Combinations of alternatives to assess the tax liability in the country of residence and in the source country

a) Combination I

The following example may illustrate the tax consequences of the combination of taxing the word-wide cash flow in the country of residence and a pure cash flow treatment of the foreign investment in the source country:

³⁷ See McLure, Ch., Consumption-Based Direct Taxation (National Tax Journal 1992), pp. 148 et seq.; with a different opinion Musgrave, P., Consumption-Based Direct Taxation: Comment (National Tax Journal 1992), p. 181.

	Country of residence (CF-tax: 50 %)		Source country (CF-tax: 50 %)		
	t ₁	t ₂	t ₁	t ₂	
initial earnings	100				
cross-border investment	-100		100		cash transfer
			-200	240	investment
			(-200)	(240)	tax base
			100	-120	tax payments
			0	120	net cash flow
cash transfer		120		-120	repatriation
tax base	(0)	(120)			
tax payments	0	-60			
net cash flow	0	60			

Figure 10: Worldwide cash flow in the country of residence and pure cash flow treatment in the source country – Combination I

To evaluate the results of the small model calculation, it is necessary to resort to the established criteria for a good tax system in an open economy:³⁸

- **Equity und allocation efficiency:**

The consumption position is the same as in the closed-border case. The criteria of equity and allocation efficiency are met. In the country of residence to consider the foreign taxes paid the deduction-method is applied.³⁹ This means that, at the time of taxation in the home-country, the foreign tax burden is deducted from the tax base in the country of residence. At the moment of the initial investment outlay (t₁) the source country grants a tax refund. If the deduction method applies in a strict and consequent way, this tax refund must be added to the tax base in the country of residence (“reversed deduction method”).

- **Investment volume:**

Due to the immediate deduction in the source country, there is a double deduction of the investment outlay. Anticipating the tax refund in the source country, the investor can extend the investment volume to $100/(1 - s_{sc})$. It is very doubtful if this extension of the investment volume is possible with an unchanged internal revenue rate of the investment. If there was a change in the revenue rate, the criteria of equity and allocation efficiency would be harmed.

³⁸ See the principles of taxation on page 8.

³⁹ Applying the deduction-method instead of the tax-credit-method see also Zodrow, G./McLure, Ch., Direct Consumption Taxes in Developing Countries (Tax Law Review 1991), pp. 480 et seq.; Hines, J., Fundamental Reform in an International Setting, in: Aaron, H./Gale, W. (ed.), Fundamental Tax Reform (1996), p. 491.

- **Position of the country of residence and the source country:**

Due to the tax refund at the time of the initial investment outlay, the source country becomes a “shareholder” in the investment. On the one hand, the treasury of the source country bears the risk of having invested in an unsuccessful project – losing the refunded tax – on the other hand, the source country participates in the investment revenue if the project performs successfully.⁴⁰ The immediate tax refund at the moment of the initial investment outlay is consistent with the systematic of a cash flow-tax system. But in a world of uncertainty, big tax refunds to non-residents don’t seem to be a very feasible solution because of fiscal considerations.⁴¹

b) Combination II

The following example may illustrate the tax consequences of the combination of taxing the world-wide cash flow in the country of residence and a modified cash flow taxation – only the inframarginal returns are taxable – in the source country:

	Country of residence (CF-tax: 50 %)		Source country (CF-tax: 50 %)		
	t ₁	t ₂	t ₁	t ₂	
initial earnings	100				
cross-border investment	-100		100		cash transfer
			-100	120	investment
			(0)	(10)	tax base
			0	-5	tax payments
			0	115	net cash flow
cash transfer		115		-115	repatriation
imputation of foreign tax		(5)			
tax base	(0)	(120)			
tax without tax credit		(-60)			
tax credit		(5)			
tax payments	0	-55			
net cash flow	0	60			

Figure 11: Worldwide cash flow in the country of residence and national cash flow surplus over the investment outlay in the source country (Combination II)

⁴⁰ See Gammie, M., Reforming Corporate Taxation (British Tax Review 1992), p. 161.

⁴¹ See Grambeck, H.-M., Konsumbesteuerung (2003), p. 89; more optimistic apparently Bach, S., Cash flow-Steuer (1993), pp. 265 et seq.

Evaluating the results leads to the following conclusions:

- **Equity und allocation efficiency:**

Equity and allocation efficiency are guaranteed. The taxation of the national cash flow in the source country leads to international double taxation. Because of conflicting rights to tax, international problems of double taxation would not disappear in the harmony case of bilateral symmetric cash flow taxation. In order to achieve the desired equity and efficiency aims, the country of residence must grant a tax credit for the foreign taxes paid.

- **Investment volume:**

The investment volume remains unchanged compared to the closed-border case.

- **Position of the country of residence:**

The mechanism of the tax-credit method is the reason for the dependence of the fiscal position of the country of residence from the foreign tax burden. Because of the tax credit, the treasury of the country of residence loses tax revenue of 5 and realizes tax revenue of 55 in t_2 . Due to the immediate deduction of the investment outlay in t_1 , the treasury waived a tax revenue of 50. Hence, the country of residence earned exactly the “normal interest rate” of 10% on its initial tax release.⁴²

- **Position of the source country:**

The cash flow surplus over the initial investment outlay earned in the source country amounts to 20. Given the supposed “normal interest rate” of 10%, this surplus can be separated in a “normal revenue” of 10 (10% on the initial investment of 100) and an “excess profit” of 10. With a tax revenue of 5, the source country participates in the earned “excess profit” equivalent to its tax rate ($50\% \cdot 10 = 5$).

The limitation of the tax base on the earned “excess profit” could require higher tax rates for non-residents in the source country to ensure a certain tax revenue.⁴³ The possibility of raising the tax rates without harming the attractiveness of the source country for foreign investors depends on the design of the tax-credit method in the home country⁴⁴ and on the local connection of the earned profits.⁴⁵

⁴² The participation of the country of residence in the amount of the "normal rate of interest" in the earned tax base could be considered as a "fair" share for the country of residence in the foreign investment. See Gammie, M., *Reforming Corporate Taxation (British Tax Review 1992)*, p. 170.

⁴³ See Schreiber, U., *Unternehmensbesteuerung (StuW 1994)*, p. 244.

⁴⁴ An unlimited tax credit compensates for every foreign tax burden.

⁴⁵ Sometimes it is said that "excess-profits" are less mobile than "normal profits" because they are due to local advantages (for example natural resources). See Gammie, M., *Reforming Corporate Taxation (British Tax Review 1992)*, p. 168.

- **Simplicity and practicability:**

The taxation in the source country occurs at the moment of repatriation to the home country or consumption in the source country. The necessary separation of the complete investment revenue in tax-free repayment of initial investment outlay and taxable excess revenue can be achieved via several technical ways. Besides the possibility of a tax-loss carryforward from the time of the initial investment outlay until the moment of taxation, the same consequences are obtained by creating a “noted item” at the amount of the initial investment outlay. This “noted item” records the part of the initial investment outlay that is financed by funds transferred from the home country to the source country. At the time of repatriation of funds to the home country or consumption in the source country, this “noted item” is dissolved and though reduces the tax base in the source country. This procedure would assure the separation of the complete investment revenue in tax-free repayment of the initial investment outlay and taxable excess revenue, but would introduce some kind of activation in a cash flow tax system, that normally does not need any valuated inventory list. A difficult problem would be the correct timing of dissolving the “noted item” if the repatriation to the home country did not take place at the end of the investment but through several transfers at different points in time.

c) Combination III

The following example may illustrate the tax consequences of the combination of taxing only the national cash flow in the country of residence and a pure cash flow treatment of the foreign investment in the source country:

	Country of residence (CF-tax: 50 %)		Source country (CF-tax: 50 %)		
	t ₁	t ₂	t ₁	t ₂	
initial earnings	100				
tax payments	-50				
net initial earnings	50				
cross-border investment	-50		50		cash transfer investment tax base tax payments
			-100	120	
			(-100)	(120)	
			50	-60	
cash transfer		60	0	60	repatriation
net cash flow	0	60		-60	

Figure 12: National cash flow in the country of residence and pure cash flow treatment in the source country – Combination III

Evaluating the results leads to the following conclusions:

- **Equity und allocation efficiency:**

The achieved consumption position is the same as in the closed-border case. The criteria of equity and allocation efficiency are met. Due to the tax refund at the time of the initial investment outlay, the source country allows the investment out of untaxed funds in spite of the taxation in the country of residence. The source country compensates the investor for this “pre-taxation” in his home country.

- **Investment volume:**

The investment volume only remains unchanged compared to the closed-border case because both countries have the same tax rate. If the tax rate in the source country was lower (higher), the investment volume would be reduced (increased). If the internal revenue rate of the investment is affected by this change of the investment volume, the achieved consumption amount is not the same as in the closed-border case. The criteria of equity and allocation efficiency would be harmed.

- **Position of the source country:**

Due to the tax refund at the time of the initial investment outlay, the source country becomes a “shareholder” in the investment. On the one hand, the treasury of the source country bears the risk of having invested in an unsuccessful project – losing the refunded tax – on the other hand, the source country participates in the investment revenue if the project performs successfully.⁴⁶ The objections against an immediate tax refund at the time of initial investment outlay were already mentioned.⁴⁷

d) Combination IV

The following example may illustrate the tax consequences of the combination of taxing only the national cash flow in the country of residence and a modified cash flow taxation – only the inframarginal returns are taxable – in the source country:

⁴⁶ See Gammie, M., *Reforming Corporate Taxation* (British Tax Review 1992), p. 161.

⁴⁷ See page 16.

	Country of residence (CF-tax: 50 %)		Source country (CF-tax: 50 %)		
	t ₁	t ₂	t ₁	t ₂	
initial earnings	100				
tax payments	-50				
net initial earnings	50				
cross-border investment	-50		50		cash transfer investment tax base tax payments
			-50	60 (5) -2,5	
cash transfer		57,5	0	57,5	repatriation
net cash flow	0	57,5		-57,5	

Figure 13: National cash flow in the country of residence and national Cash flow surplus over the investment outlay in the source country (Combination IV)

Evaluating the results leads to the following conclusions:

- **Equity und allocation efficiency:**

The achieved consumption position with the cross-border investment is not the same as in the closed-border case. The criteria of equity and allocation efficiency are harmed.

- **Investment volume:**

The investment volume in the source country is reduced to 50. It is very doubtful if the internal revenue rate of the investment (20%) remains unchanged from this sharp reduction of the investment volume.

- **Simplicity and practicability:**

The necessary separation of the complete investment revenue in tax-free repayment of initial investment outlay and taxable excess revenue at the moment of repatriation to the home country or consumption in the source country is technically very difficult. These problems were already discussed extensively.⁴⁸

4. Preferable combination

Against the limitation of the right to tax of the **country of residence** to the national cash flow and though applying the exemption method for cross-border investments (combination III und IV), the following arguments can be cited:

- It is very doubtful if the completely different taxation of national investments

⁴⁸ See pages 18 et seq.

(investment out of untaxed funds due to the immediate deduction of the investment outlay) and cross-border investments (investment out of taxed funds due to the refusal of an immediate deduction) would be enforceable.

- This significant difference in the taxation of pure national investments and of cross-border investments could be considered – especially against the background of the European fundamental freedoms and the demanded non-discrimination of cross-border investments – as an unacceptable discrimination of foreign investments.
- The repatriation of funds would be tax-free in the country of residence. The reinvestment of these funds would lead to a negative tax base in the country of residence and as a consequence must be followed by a tax refund. No country in the world grants large tax refunds to its taxable persons.
- As the model calculations have proved, equity and allocation efficiency are not met (combination IV) or are only achieved under certain assumptions (combination III: equal tax rates in both countries).

Due to these arguments, application of the exemption method for cross-border investments in the country of residence does not seem to be a very convincing alternative. As a consequence, the tax liability in the country of residence has to be assessed by taxing the worldwide cash flow (combination I and II). Cash flow taxation has also to be valid for foreign investments. The demand for an equitable and allocation efficient tax system requires applying the foreign tax-credit method in the country of residence. Ideally, the country of residence should grant an unlimited tax credit. To allow the country of residence this far-reaching step, bilateral agreements to limit the tax rate in the source country are urgently needed.

Considering the position of the **source country** and due to fiscal considerations, alternatives that require an immediate tax refund to non-residents in the source country can be excluded as feasible solutions (combination I and III). Nevertheless, it can be assumed that the source country will claim the right to tax the cash flow surplus earned within its borders. In spite of the decision in favor of a consumption-based tax system, the taxation of non-residents in the source country is not connected to the place of consumption but to the place of earning the funds for consumption.

To avoid double taxation of the initial investment outlay, the source country must leave the repayment of the initial investment outlay – to the extent that the investment is financed by means transferred to the source country – tax-free (combination II and IV). The necessary separation of the complete investment revenue in tax-free repayment of initial investment outlay and taxable excess revenue might be considered as an unsystematic element in a cash

flow tax system but is the only way to achieve a feasible solution for taxation in the source country. Following the general idea of a consumption tax – taxing only the inframarginal returns – not only must the original investment outlay be deductible in the source country, but also the opportunity cost of capital calculated at the “normal rate” of interest.

The proceeding arguments suggest to tax in the country of residence the worldwide cash flow by applying the foreign tax credit method and in the source country the taxation of the earned “excess profit”:

	Country of residence	Source country
Tax liability	Unrestricted tax liability Worldwide cash flow (assuming constant cash balances: worldwide cash flow = worldwide consumption)	Restricted tax liability National cash flow <ul style="list-style-type: none"> • No deduction of the initial investment outlay • Taxation of the cash flow surplus over the initial investment outlay indexed with the “normal interest rate” ⇒ taxation of the “excess profit”
Measures against international double taxation	Foreign tax-credit method	./.

Figure 14: Assessing the tax liability in the country of residence and in the source country in the case of bilateral symmetric cash flow taxation

The most significant objections against the proposed solution might be quoted in the context of the criterion of simplicity and practicability. To enforce the taxation of the worldwide cash flow in the country of residence, complete control of foreign investments is necessary. Considering the incentives to declare the foreign investment – only by declaring it can the amount be deducted from the home tax-base – the problem might be less serious than is thought at the first glance. Nevertheless, the proposed solution requires intensive cooperation and a far-reaching exchange of information between countries.

V. Most important results

The most important results of this article can be summarized as follows:

- In spite of the far-reaching consequences and the necessity of a thorough reform of the present income tax system, preference is given to the **RF-base-cash flow-tax** on the personal level without a separate company tax. This analysis was not the center of this article, but rather a short review of the most important arguments was given.
- In the **country of residence**, cash flow taxation must also be valid for foreign investments. Global cash flow acts as the tax base in the country of residence. Assuming constant cash balances, this is equivalent to taxation of worldwide consumption. The home country must offer a tax credit for foreign taxes paid. Bilateral agreements, which limit the tax rates in the source country, are recommended to increase the willingness of the residence country to offer an unlimited tax credit system.
- The **source country** taxes the territorial cash flow of foreign investors. If the investment is financed with means earned in the country of residence, an immediate deduction of the investment outlay – with the following tax refund for the investor – is not feasible because of fiscal considerations. As a consequence, at the moment of taxing the investment revenues in the source country – normally at the moment of repatriation to the residence country – the original investment outlay has to be separated and left tax free. Following the general idea of a consumption tax – taxing only the inframarginal returns – not only must the original investment outlay be deductible in the source country, but also the opportunity cost of capital calculated at the "normal rate" of interest.
- The possibility of a tax-free accumulation of wealth that is not used for consumption purposes places considerable demand on the ability of the tax authorities to prevent tax avoidance. Strong **international cooperation** with a well-working exchange of information is indispensable for a successful implementation of a cash flow tax system on an international level.
- Finally, it can be stated that a **coordinated introduction** of symmetric cash flow-tax systems in several neighboring countries could be possible. To guarantee the success of the reform, each country must be willing to commit to intensive cooperation in tax matters.⁴⁹

⁴⁹ The more critical and complicated case – the clash of a traditional income tax system with a cash flow-tax system – will be discussed in a forthcoming article.

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