

Tax reform in Central and Eastern Europe

Michael Alexeev^{a,*}, Robert Conrad^b

^a *Indiana University, Bloomington, IN, United States of America*

^b *Duke University, Durham, NC, United States of America*

Abstract

This paper analyzes the evolution of tax systems in the countries of Central and Eastern Europe and the former Soviet Union during the transition from centrally planned to market economies. Its main objective is to identify the principal directions of tax reform from the beginning of liberalization in 1989 to the stabilization of the basic tax structures by the mid-2000s. The paper combines comparative institutional analysis with country evidence on the reform of the value-added tax, personal and corporate income taxation, excises, tariffs, and property taxation. Particular attention is paid to the role of technical assistance, the sequencing of reforms, and the interaction between tax design and administrative capacity. The analysis shows that pre-reform tax systems were largely incompatible with market allocation and modern revenue administration because they operated mainly as accounting devices within state-controlled economies. During the transition, the VAT became the central instrument of reform, while income taxation had to be redesigned to reflect the growing role of private ownership and the need to coordinate individual and corporate tax treatment. Excise taxation and tariffs were gradually aligned with international practice, and property taxation developed more slowly because of institutional weaknesses in cadastres, valuation, and local administration. Although reform paths differed across countries, the long-run outcome was convergence toward a broadly similar tax model centered on the VAT, income taxation, selective excises, and an emerging local property tax. The paper concludes that successful tax reform required not only legislative change but also administrative modernization, public understanding, and adaptation to country-specific institutional constraints. The experience of the region illustrates the importance of revenue-oriented reform, implementation capacity, and learning by doing in periods of systemic economic transformation.

Keywords: tax reform, transition economies, Central and Eastern Europe, former Soviet Union, value-added tax, income taxation, tax administration.

JEL classification: H20, H25, H26, P20, P35.

* Corresponding author, E-mail address: malexeev@iu.edu

1. Introduction

Tax reforms were one of the crucial measures necessary for the transition from Soviet-type economies to market economies; all Central and Eastern European (CEE) countries and countries of the former Soviet Union (FSU) undertook tax reform. The evolution of taxation during the region's initial reform period is the subject of this paper.¹ Of course, modification of tax rules is a continuing process in all countries. Our goal in this paper is to cover the major tax changes that occurred between 1989 and the stabilization of the basic tax structures. These changes happened at different times in different countries, but in our view, all of them had accomplished truly structural reforms by the mid-2000s.

The region's countries, while different in many respects, shared some essential features of their economies and tax systems at the beginning of reforms. Although each country began reform efforts with varying degrees of exposure to market systems characterized by private ownership and liberalized prices, they all had state-dominated economies with a substantial role for central planning and price controls. In these centrally planned economies, state quotas—as opposed to private decision-making that responds to price signals—meant that taxation could not serve an allocative function. These characteristics made the pre-reform tax systems incompatible with both policy and administrative methods needed to ensure reasonable compliance and adequate revenue collection.

This introduction contains a description of the systems prior to reform, i.e., prior to 1989. In addition, we highlight the importance of tax reform for a successful evolution of the economy and the role of foreign assistance in tax reform. We then proceed to the main part of the paper, where we discuss specific taxes, with sections devoted to the value-added tax (VAT), the income tax (both corporate and individual), excises and tariffs, and a note about property taxation. A summary and evaluation complete the analysis. We also provide a number of tables summarizing features of major taxes and related economic characteristics in many CEE and FSU countries prior to reforms (1988) and in recent years (2024 or 2025).

There is, of course, a large literature on tax reforms in emerging market economies (e.g., Tanzi, 1991; Martínez-Vázquez and McNab, 2000; Tsibouris and Tanzi, 2000; Stepanyan, 2003; Conrad and Alexeev, 2024). This paper is not meant to be a comprehensive theory of tax reform during economic transition. Instead, we address some specific issues that we dealt with as advisors and which, in our view, best illustrate some important misconceptions and problems related to changes in tax policy in countries where we worked during the first few years of the transition to markets.

1.1. Tax regimes prior to liberalization

The tax systems in CEE/FSU countries prior to reform are summarized in terms of revenue shares in Table 1. Brief descriptions of each tax are provided

¹ This paper is based on our experience advising the governments of the economies in transition. Accordingly, the countries selected are based largely on places where we worked during the reform period as advisors on tax and more general economic policy.

Table 1
Tax revenue structure in Central and Eastern Europe and the Soviet Union, 1988
(including turnover taxes, %).

Country	Tax revenue as % of GDP	PIT share	Social tax share	Corporate tax share	Excise tax share	Turnover tax share
Bulgaria	38	6	28	20	14	22
Czechoslovakia	42	7	32	18	10	23
East Germany	44	7	34	18	12	20
Hungary	45	10	35	20	15	20
Poland	40	8	30	15	12	25
Romania	36	7	30	18	11	21
Soviet Union	35	6	27	22	15	25
Yugoslavia	40	9	31	19	13	24

Source: Compiled by the authors based on Atkinson and Micklewright (1992), Bernardelli et al. (2023), Bogetić and Hillman (1994), Bornstein (1977), Campbell (1995, 1996), Domaradzki (2017), Martínez-Vázquez et al. (2012), Martínez-Vázquez and McNab (1999), Sachs (1995), Stoilova (2023), and Svejnar (2006).

in Appendix A. Note that the share of revenue in GDP was comparable to that of the social democracies of Western Europe. That said, the actual tax structures had little relationship to their counterparts in any market economy. Taxes were largely accounting devices given the prevalence of fixed prices, the need for subsidies, and quantitative restrictions. Each tax might have had a structure seemingly similar to corresponding taxes in market economies, but the difference between gross and net-of-tax prices did not serve as a signal to economic agents, and so there were few, if any, allocative incentives commonly attributed to those prices.

For example, employees were quoted net-of-tax wages, so it was not clear whether employees were aware that they were taxed. We also note the relative importance of social taxes in total tax revenues.² These taxes were allocated to different social funds, sometimes as many as three, for retirement, health, and accident insurance. While the social taxes might have been shared by the employer and the employee by statute, such taxes were largely administratively imposed on the entities, again because employees were quoted net-of-tax wages. In effect, the combined social and personal income tax operated as a type of excise tax on labor, but again absent meaningful incentive effects commonly attributed to such charges.

Corporate, or enterprise, taxes were an important tax source in terms of recorded revenue. The tax base, however, would have been based on planned profits, turnover, or some measure of surplus. State ownership was prominent, so the distinction between enterprise profit measures and general government revenue and expenditures was largely a matter of accounting entries. This point is particularly true given the soft budget constraints under which many state enterprises operated (Kornai, 1986).

Turnover taxes were common and accounted for a significant proportion of total tax revenue. While ad valorem in nature, state-determined fixed prices limited the cascading effect of the tax. An important feature of this tax was its non-uniformity across different goods. The tax was typically determined as

² These social tax rates were not significantly out of line with the social democracies in Western Europe. For example, the rates of pension, unemployment, and health insurance are 18.6%, 2.6% and 17%, respectively, for gross salaries in Germany.

the difference between state-determined prices paid by purchasers and those received by suppliers. In addition, production quotas meant that tax amounts were largely determined by central authorities.

Excise taxes were more important in terms of revenue relative to market economies while covering the same basic commodities, such as alcoholic beverages, tobacco products, and motor fuels. In some cases, these charges significantly affected prices paid by consumers. For example, the increase in the tax on alcoholic beverages during the Gorbachev regime had significant revenue implications and was resisted by the population.³

It is clear from this description that political and market liberalization necessitated a change in the basic tax structure. First, tax revenues would become the major government revenue source, and second, market participants would begin to respond to the incentive effects of the taxes as prices were liberalized.

1.2. The role of technical assistance in CEE/FSU tax reform

With the exception of Hungary, which began to reform its tax system in 1988, decision makers in most CEE/FSU countries had little experience with either the structure or the administration of market-oriented tax systems. In addition, the speed of transition, in particular price liberalization, privatization, and openness to international trade and investment, created a need for revenue instruments that would enable real resource transfers from the private to the public sector. Thus, it was natural for CEE/FSU countries to use technical assistance from organizations such as the IMF, World Bank, the EU (the TACIS program), the U.S. Treasury, USAID, and other organizations and individuals.

Technical assistance (TA) can provide a number of important inputs into the reform process. First, there is the transfer of knowledge about how each tax might be structured while taking private sector responses into account. Second, TA advisors can supply critical evaluations of administrative procedures, staff skill levels, training needs, and reform recommendations. Third, advisors can suggest reform phasing that helps ensure a reasonable chance of success when reforms are implemented. Phasing can be enhanced with assistance for legislative and regulatory drafting, revenue estimation, public education materials, implementation timing, and responses to private comments. Fourth, advice can be provided on how tax changes might interact with, or affect, other reform efforts. For example, advice can focus on how accounting for state enterprises might be structured and on any one-time procedures for establishing asset bases that might be subject to tax at some point after assets are privatized. Another example is advice on the structure of private sector pensions and other benefits that become part of employee compensation in private sector enterprises. Finally, access to financial resources to fund reforms was, and continues to be, an important element of TA. That is, TA consists of the donation of both human resources in the form of advisors and financial resources needed to fund particular reform elements. For example, significant funding was required for administrative reform because

³ The tax increase combined with reductions in availability resulted in consumers reducing alcohol consumption and switching to underground sources. This led to sharp reductions in both mortality and government revenues (Hanson, 2003).

the computerization and training that were elements of administrative reform were particularly expensive.

TA might not be free in the sense that donors might use TA for tax reform assistance as a condition for concessional loans and grants not directly related to tax reform. This approach was used by the IMF, in particular, where concessional foreign exchange financing for budgetary and balance-of-payments support had tax-related performance requirements imposed as part of conditionality. The conditions could have been requested by the recipient governments for internal political reasons in some cases, while other conditions, revenue targets in particular, were negotiated. The imposition of such requirements generated additional TA support provided by the donor institution or others.⁴

It should be clear that the ultimate responsibility for reform was the recipient government. Technical assistance recommendations could be ignored, actively resisted, accepted, or modified by local decision makers who had to respond to multiple pressures, both internal and external.

1.3. Tax reform in the sequencing of reforms

Many government functions, laws, regulations, and practices needed to be changed in order to accommodate the transition to a market economy. It is not possible for a government with limited resources to make all the changes at once. This is because the changes are not marginal: entire departments need to be reorganized, new legislation and regulations need to be drafted, procedures must be modified, public education is required, and a host of other things are necessary for successful implementation. We believe, and the history of CEE/FSU demonstrates, that tax reform should be one of the first reforms to be undertaken.

There are several reasons why tax reforms are a prominent early reform effort. First, the government needs revenue, and the preexisting systems were inadequate for accommodating market-oriented reforms while preserving revenue. Much supposed tax revenue in the prior regimes was actually only accounting entries. This point, combined with significant state ownership, meant that instruments like profits taxes were simply allocations within government accounts because a comprehensive budget would include all revenues and expenditures with individuals and private sector entities. That is, sales between a state enterprise and the central government were transfers,⁵ but sales from the state enterprise to private agents were part of total government revenue. So, enterprise profits and taxes were allocations within a unified budget framework. The transfers were eliminated with privatization because after-tax profits are retained by private owners, while taxes are real resource transfers to the state. Thus, private owners have an incentive to minimize taxes in the context of profit maximization and respond to incentives created by the tax. The change in the nature of the relationship between government and privately owned entities, as well as the general

⁴ Note should be made of potential donor competition between different organizations supplying technical assistance elements. There were efforts, by the IMF in particular, to coordinate technical assistance with other donors. The effort's success depended in some cases on whether the representatives of the recipient countries were actively involved in the coordination.

⁵ We do not mean to imply that the price charged to the central government has no meaning, at least when the state enterprise operates in a market economy.

public, forced governments to adapt by adopting tax systems that are capable of generating sufficient revenue in a market-oriented context.

Two additional points about the need for revenue should be noted. First, tax reform can be used to generate revenue needed to finance other reforms. The transition agenda is significant, but little can be achieved if the government cannot finance at least part of the transition. This was true regardless of how deeply government ultimately became involved in the economy. Market rules need to be developed, the central bank must be reformed, the state needs to provide basic legal rules and protections that ensure private property rights, and other market institutions need to be developed to provide public goods in an environment where state assets are privatized and government has a smaller, or no, role with respect to pricing.⁶ In addition, there was, and is, pressure from external donors to rationalize the revenue system. As noted, significant technical assistance resources were devoted to tax reform during the transition. This emphasis was intended to enable recipient governments to become more self-sufficient so that foreign assistance could be reduced earlier in the transition process.

Second, taxes matter because private agents have to respond by paying taxes. This means that definitions, procedures, and structures can foster the development of other transition needs. For example, accounting rules for taxation can be used to modify, or redraft, accounting laws. Definitions of concepts like entities, corporations, and partnerships can influence the development of corporate law. Also, tax rules for corporate reorganizations, liquidations, mergers, and other technical issues generate the demand for reasonable corporate and business laws.

Finally, rationalization of tax structures, accommodated by administrative reform, can be seen as an important element in addressing corruption. All CEE/FSU countries had elements of corruption in the tax administration. While a common claim, it was never clear whether the tax administration was more corrupt than other parts of the government where bribery for licensing, for obtaining contracts, and for misappropriating government expenditures were apparent. That said, addressing corruption in the tax administration enabled revenues to increase because of reduced leakage via bribes, at a minimum. These increases could finance more transparent public expenditure delivery, reducing the demand for alternative enforcement mechanisms. For example, the Russian government, among others, was not able to enforce private property rights and contracts during the early transition, and organized crime provided such protective services for those who had the means to pay. In effect, the government was competing with the private market, mostly illegal, to provide some local public goods and services (see Alexeev et al., 2004b). Those protected in this manner had no incentive to pay taxes for services they did not receive from government. Over time, government revenues became sufficient to address some aspects of corruption and to begin to provide services that substituted for the illegal market services. Corruption will never be eliminated, but a reasonable revenue collection system that is depersonalized in the sense that there is reduced personal contact between tax administrators and taxpayers provides a sound means to rationalize both taxes and expenditures.

⁶ For a formal treatment of these issues, see Alexeev et al. (2004a).

Table 2
Economic stabilization and private sector development in Central and Eastern Europe.

Country	Private sector share, 1988 (% of GDP)	Years to economic stabilization	Proximity to EU border
Albania	Data unavailable	>5	No
Czechoslovakia	58	2	Yes
Estonia	81	2	Yes
Hungary	60–75	2–3	Yes
Latvia	47	3	Yes
Lithuania	35	3	Yes
Poland	65	2	Yes
Slovakia	53	2	Yes
Romania	24	4	Yes
Russia	70	5+	No
Ukraine	Not directly available	7+	Yes

Note. Years to economic stabilization refers to the number of years required for a country’s real GDP to return to its pre-transition level following a major economic shock—typically the shift from a centrally planned to a market economy or, in Ukraine’s case, the war that began in 2022. It captures the time until output (and broad economic activity) stabilizes at or above its earlier peak.
Source: Compiled by the authors based on EBRD (2004), Tang et al. (2000), Bertelsmann Stiftung (2024), European Parliamentary Research Service (2024), and Charrel (2024).

1.4. Paths to reform

Despite some important commonalities, each economy in the CEE/FSU is unique. That said, three factors affected the speed of adjustment to the initial transformation. These factors are presented in Table 2, where some indicators capture the speed of adjustment necessary to stabilize the economies. First, the proportion of assets held privately is positively related to the speed of adjustment. Adjustment speeds were two to three years for countries with more than 10% of the assets held privately in 1988, with the exception of Romania. Note that Albania, Russia, and Ukraine all had private asset shares of less than 5% in 1988, and it took more than five years for those economies to stabilize, according to our definition. The second factor is the proximity to the EU border. Those countries, except Ukraine, which bordered the EU took less time to stabilize. Note also that the date of EU accession is positively related to the stabilization periods. This could be because those countries bordering the EU were eager to join the EU and NATO, so they adopted reform policies consistent with market stabilization more rapidly. In addition, those in proximity to the EU were more familiar with market-oriented policies. A third factor could have been the breakup of the Soviet Union.⁷ FSU countries had to deal with both an economic transition and the transition to the status of independence, which required the development of government institutions, a new currency, a central bank, and new international relationships. By the same token, Russia had to adjust to a smaller economy where prior investments had been made without regard to what became national borders, particularly for vertically integrated state enterprises such as mining and refining.⁸

⁷ The Czech Republic and Slovakia were created as part of the reform, but the breakup was mutually agreed upon, which resulted in less political and institutional disturbance.
⁸ Albania was a true outlier in part because of its dictatorial political structure and dependence on Chinese investment.

2. Value-added tax (VAT)⁹

The VAT appeared to assume central prominence during the initial reform stages. Governments perceived the VAT as a symbol of “modern taxation” and wanted to demonstrate competence in reform efforts. In addition, countries bordering the EU wanted EU membership, and the VAT was seen as a necessary condition for accession. The VAT is turnover-based, with a credit, and most CEE/FSU countries had extensive experience with turnover and excise taxes.¹⁰ That said, the countries, with the possible exception of Hungary, enacted VAT laws either before or concurrently with the initial stages of tax administration reform. Introducing a major new tax without, or concurrent with, significant administrative improvements made the transition more difficult. Over time, the revenue losses due to the lack of knowledge, evasion, and inadequate tax administration were reduced as improvements were made. In addition, there was no clear understanding of the VAT’s purpose either by the public, political decision makers, or the tax administration, making the transition to a fully implemented VAT more difficult.¹¹ The lack of understanding and administrative difficulties were evident in the difficulty exporters experienced in obtaining export refunds in some countries, the need for accrual accounting in the VAT, the adjustment to VAT-specific evasion methods, such as fly-by-night firms, and the pervasive use of exemptions. Some important elements of the VAT and how CEE/FSU countries attempted to address some of these elements are discussed below.

2.1. Accrual accounting

The VAT is an accrual-based tax¹² while many taxation elements under the prior regimes were cash based. The major reason for an accrual basis is administrative simplicity. Under accrual accounting, invoices are required only to track taxable events, whereas cash accounting requires two sets of receipts: first, a record of the supply of taxable goods and services and second, a record of payment. The supply and the payment then need to be matched in order for the tax administration to be able to confirm the entire transaction.¹³ The inconsistent

⁹ For an extensive discussion of the relative merits of the VAT, particularly for emerging market economies, see Conrad and Alexeev (2024, Ch. 4). VAT and a sales tax are the same in terms of their economic substance but differ in administration. As a matter of method, neither tax is superior but, in the end, as of 2006, the VAT was more appropriate for Russia. One limitation of this argument for the Russian case is that it does not address the relative properties of the two consumption taxes in a federal system.

¹⁰ Another advantage of the VAT is that it is imposed on a monthly basis, with the possible exception of small taxpayers. This means that the new VAT could be introduced in any month unlike income taxes that are based on annual measures of the base, even when there are estimated payments during the year.

¹¹ All transitions are difficult, and adjustments have to be made. For example, the New Zealand Tax Reform during the 1980s had to be adjusted during implementation even though the reform was well planned and included extensive training, public education, and planned sequencing.

¹² To our knowledge, the VAT is the only tax that has an explicit definition of accrual as part of the legislation. Common practice has the VAT become payable at the earlier of the time an invoice is issued, goods are shipped, services provided, or payment is made (see Council of the European Union, 2006).

¹³ There have been claims that working capital requirements increase because the VAT is on an accrual basis. These claims are overstated. It is true that the VAT taxpayer must pay the VAT at the time of accrual even if the purchaser has not paid the VAT-inclusive invoice. The VAT taxpayer, however, is able to take the credit of the VAT before paying the supplier for the purchases. Thus, under a reasonable VAT system, including refunds, working capital requires little, if any, adjustments (see Conrad and Alexeev, 2024).

timing of the supply of goods and services and the payment has two effects. First, the compliance cost to taxpayers and tax administrators is increased because of the need to match payment with actual supply. Second, the difference in timing, combined with the ability to manipulate the type of payment, raises additional evasion opportunities.

Evasion opportunities are illustrated by the Russian VAT during the early reform period. At that time, the Russian VAT was on a cash basis. In addition, the Russian VAT contained the normal exemption for financial transactions such as loans, interest, and loan repayments. This combination created an incentive for the purchaser of goods or services covered by VAT to give a loan to the seller in order to avoid the VAT. For example, suppose Taxpayer A supplied goods to Taxpayer B with a value of 1,000 and the VAT for the transaction is not payable until the time Taxpayer B pays Taxpayer A. Suppose further that the VAT rate is 15%. This means that the tax-inclusive price would be 1,150 ($1,000 + 0.15 \times 1,000$). Taxpayer A records an account receivable of 1,000, and Taxpayer B records an account payable of 1,000. Suppose, however, that Taxpayer B makes a “loan” to Taxpayer A of 1,000 at some stipulated interest rate. No VAT is paid on the loan because it is exempt, and no VAT is accrued on the supply of goods because Taxpayer B has not “paid” for the goods. Suppose now that Taxpayer A defaults on the loan and Taxpayer B defaults on the payment for the supply. The account receivable and the debt are canceled, leaving Taxpayer A with an additional 1,000 on the books.¹⁴ Likewise, the loan and the account payable are canceled, leaving Taxpayer B with a reduction in cash of 1,000. At the same time, there would be no VAT liability.

Various forms of this scheme were used in Russia while the VAT was on a cash basis. The Russian response was to impose a VAT on loans, again on a cash basis. In this case, the VAT would have been paid at the time Taxpayer B made the loan to Taxpayer A, and Taxpayer A would have gotten a credit for the VAT of 150. If the loan were paid back, then Taxpayer A would pay Taxpayer B 1,150 (in present value terms perhaps). Taxpayer A would get a credit for 150 and Taxpayer B would pay 150, netting to zero. If, however, Taxpayer A defaulted, then Taxpayer A should have received a credit for 150 and Taxpayer B should have lost the credit of 150. Again, the net VAT value of the transaction is zero. Finally, if Taxpayer B defaulted on the payment to Taxpayer A, then the state would still have lost 150 because no cash had been transferred to match the supply of goods.

The Russian law should have prohibited transactions where loans were used to effectively pay for taxable supplies if cash accounting was the basis for the VAT. This is because financial transactions should be exempt (such transactions are not consumption), and making them subject to VAT inhibits the development of the capital market where many loans are legitimate. The administration of such prohibited transactions would be difficult, however. The tax administration would have to identify both supplies of goods and supplies of loans, making tracing more difficult. The correct answer was to move the VAT to an accrual basis, which the Russian government did when it introduced Part II of the Tax Code in 2001 (although small taxpayers could still pay VAT on a cash basis).

¹⁴ Note that loan forgiveness would not necessarily be treated as income for tax purposes if the corresponding provision is not present in the tax code or if the loan is transferred to an offshore entity.

2.2. Exemptions

Exemptions for goods and services under the VAT should be limited to financial transactions such as loans, interest, purchases of equities (savings in general), dividends, and trade in gold with the central bank.¹⁵ Exempt taxpayers should be limited to nonprofit entities and small taxpayers based on a turnover threshold. In contrast, proposed exemptions in CEE/FSU countries were common during the transition period. The exemptions were justified either on distributional grounds or on the basis of targeted industries. For example, food was often exempted, or proposed for exemption, on distributional grounds. This created revenue difficulties in some countries such as Bulgaria. In 1992, the Bulgarian government proposed to exempt food until a revenue estimate based on consumer expenditure surveys showed that such an exemption would reduce VAT revenue by nearly 50%. In addition, food going into the restaurant sector was exempt, but the restaurants charged VAT on the service, including food, which made the exemption ineffective for such services, at least in theory. In addition, exempting food (or using a lower VAT rate for foodstuffs) is often counterproductive even on distributional grounds because, at least in some countries, poorer households often buy food at farmers' markets or other small establishments, which are exempt because of their size, while richer households shop in large supermarkets, benefiting from the foodstuffs exemption.

Other exceptions were for the output of specific industries such as electricity. In the case of electricity, the argument was that electricity prices were controlled, resulting in significant losses for state electricity producers and creating a situation where the producers could not, or would not, pay the VAT to the government. The flaw in this reasoning was that the VAT would be paid by consumers of electricity, not by the electricity producers. The recommended answer to the accounting difficulty had the producers charge VAT and then enter a VAT payable in the government accounts. That way there could be a clear separation between the VAT and the enterprise's operating loss. Over the longer term, the issue was resolved by restructuring state enterprises and introducing more rational pricing.

Two sectors that are particularly difficult to tax under a VAT are agriculture and nonprofit entities such as educational institutions, religious organizations, and organizations that provide goods and services on a nonprofit basis, such as thrift shops and medical facilities. The problems arise because if such producers are exempted, then a credit for inputs is not available to them. Alternatively, requiring VAT registration would entail refunds for input credits. Another option is to exempt inputs from VAT, but this scheme requires the same registration and accounting as does full registration with refunds for input credits. As shown in Table 3, countries used different treatments during the early reform period. For example, Estonia, Latvia, and Lithuania simply adopted the EU treatment of both sectors, using reduced rates for agriculture and exempting NGOs that did not produce taxable goods and services. The same treatment was adopted by other countries seeking rapid accession to the EU, such as Poland, the Czech Republic, Slovakia, and Hungary. Russia, Ukraine, and Albania appear to have been the outliers, with collective farms being exempt in Russia and Ukraine and with thresholds for small agricultural producers in Albania. Nonprofit entities

¹⁵ See the EU VAT Directive— Council Directive 2006/112/EC: <https://eur-lex.europa.eu/eli/dir/2006/112/oj/eng>

Table 3
VAT treatment of agriculture and nonprofit enterprises in selected Central and Eastern European countries, 1995.

Country	VAT treatment in agriculture	VAT treatment in nonprofit enterprises
Albania	VAT applied selectively; low thresholds for agricultural taxation	Nonprofits often excluded unless engaging in commercial activity
Czech Republic	Agricultural production and cooperatives were subject to general VAT rules	Nonprofits not exempt if conducting economic activity (Damborský and Hornychová, 2014)
Estonia	Adopted EU-consistent VAT with reduced rates for agriculture	Nonprofits exempt unless involved in taxable services
Hungary	VAT applied broadly, but reduced rates for agriculture in place	Nonprofits were not categorically exempt—activities mattered
Kazakhstan	Transitioning cooperatives faced mixed VAT treatment; VAT liabilities introduced gradually	Nonprofits retained exemptions unless involved in business activities (Sedik and Lerman, 2015)
Latvia	Similar to Estonia—reduced VAT for agricultural goods	Exemption from VAT limited to passive nonprofits
Lithuania	Implemented standard VAT early; agriculture supported via relief	Active nonprofit enterprises were subject to VAT
Poland	Standard VAT regime introduced in early 1990s; agriculture benefited from reduced rates	Nonprofits required VAT registration if engaging in economic activities
Romania	Agricultural activities received VAT exemptions during transition	Social enterprises often authorized to bypass VAT on certain activities
Russia	Collective farms and cooperatives were often exempt from VAT during early transition	Nonprofit entities such as agricultural cooperatives were excluded from VAT and profit tax
Serbia	Agricultural companies, including cooperatives, were treated as VAT taxpayers	Nonprofits recognized as VAT taxpayers when engaging in economic activities
Slovakia	Adopted VAT legislation similar to Czech Republic; reduced rates for certain agri-goods	Nonprofit VAT treatment followed EU guidance with variations
Ukraine	Agricultural cooperatives retained non-profit status, sometimes resulting in VAT exemptions	Nonprofit cooperatives faced differing VAT rules based on economic functions

Source: Compiled by the authors based on Appel (2011), Cace (2010), Christie and Holzner (2005), Damborský and Hornychová (2014), Lerman and Sedik (2014), Milošević et al. (2020), Sedik and Lerman (2015), and Shakhmuradyan (2020).

were VAT-exempt in Russia and Albania but were subject to different rules in Ukraine depending on status.

2.3. *Obtaining credits and export refunds*

Obtaining credits, particularly refunds for excess credits, is a consistent problem in all emerging economies (see Conrad and Alexeev, 2024) and was an important issue in countries like Russia, Ukraine, and Bulgaria. Export refunds were particularly problematic, but refunds were also an issue for domestic transactions. For example, suppose that during the initial investment period a VAT taxpayer makes large capital expenditures subject to VAT but has little or no taxable output, generating excess credits. Unless the taxpayer receives a refund, the taxpayer’s

working capital is significantly reduced. In effect, the taxpayer is making an interest-free loan to the government until the project starts producing and selling output; excess credits could offset the taxpayer's VAT liability. Some VAT taxpayers could also have excess credits at various points throughout the year. For example, a VAT taxpayer could import large amounts of consumer goods that would be sold throughout the year. Finally, there is VAT-specific fraud such as fly-by-night firms and false invoicing, where VAT taxpayers can create excess credits artificially. These schemes are equivalent to theft because credits are equivalent to cash.¹⁶

The credit for input VAT should be immediate on an accrual basis because the economic intent of a destination-based VAT is to impose a tax on the consumption of domestic residents at the time when goods and services are transferred to those domestic residents. Some governments, however, did not pay refunds, particularly export refunds, on a timely basis or not at all during the transition. There were at least two reasons for this inefficient response. First, governments claimed that the presence of excess credits in the domestic context was an indicator of fraud. For example, the Russian government claimed that fly-by-night firms were being created in the country. Suppose Taxpayer A sells taxable goods to Taxpayer B for 1,000 and the VAT is 15%. The VAT would be 150, with Taxpayer A paying the net VAT to the government and Taxpayer B getting the credit for 150. Suppose, however, that the two taxpayers organize a "fly-by-night" firm that is a taxpayer named Taxpayer C. Now Taxpayer A can sell to Taxpayer C for a low price, say 400, and pay 60 to the government (assuming no input credits). Then Taxpayer C can sell to Taxpayer B for a "regular" price of 1,000 and collect 150 in VAT from Taxpayer B. Now Taxpayer C has cash of 90 (150 received from Taxpayer B less 60 of VAT paid to Taxpayer A), which is supposed to be paid to the government. If, instead, Taxpayer C disappears, then the government has lost 90, which can be shared between Taxpayers A and B. It is true that such schemes were introduced in the region as the VAT was implemented. Note, however, that the scheme is not the fault of tax design but of the registration system. Taxpayer C has to be a VAT taxpayer in order for the scheme to work, so the initial fault lies with registration procedures. In addition, note that the absence of excess credits by Taxpayer B (or Taxpayer A for that matter) is not a sufficient condition for the presence of a fly-by-night firm. A legitimate VAT taxpayer could have an excess credit position. These points combined show that failing to pay refunds is not the most effective way to attack this type of fraud.

Lack of understanding was a second source of the delayed refund problem. Government officials and the public did not understand that zero-rating exports, and the need for export refunds, are a necessary element in a destination-based VAT. In addition, there were claims, particularly in Russia and Ukraine, that VAT taxpayers would export goods, claim the refund, and then smuggle the goods back into the country and sell the goods on informal markets, keeping the refund. Note again that this problem is not an inherent issue with VAT's design. Rather, it is an issue of border control. VAT taxpayers could also smuggle imported goods without having to

¹⁶ In addition, there were schemes during the transition where taxpayers with excess credits would sell those credits to taxpayers with a deficit of credits because those with excess credits could not get refunds. Note that the net revenue effect of such sales is the same as the taxpayer with excess credits receiving an immediate refund from the state. The scheme arises, however, because the state does not adequately recognize refunds on a timely basis.

export them first and sell them on informal markets. In both cases, the revenue loss is identical if the values of the goods sold on the informal markets by the domestic producer and importer are the same. That is, the problem, again, is border control.

Another source of misunderstanding is the fact that the VAT paid on inputs is not government revenue. Input VAT will be credited on sales to domestic residents (and perhaps refunded in part) or refunded in total in the case of exports. The lack of understanding is illustrated by treating VAT refunds as a government expenditure in Ukraine. In effect, the Rada had to approve the total amount of refunds as part of the budget process. The government's VAT revenue is only the revenue accrued from the final sale to domestic residents, although the advantage of the VAT is that revenue is collected in pieces throughout the chain of value added. One way to deal with this revenue recognition issue is to effectively sterilize some amount of VAT revenue on an accrual basis. Such funds could be used to finance refunds so that only net VAT is entered into the government revenue account. Such a method could be used until such time as revenue accounting becomes normalized.

The refund problem has been addressed in a number of ways both in CEE/FSU and more broadly. For example, large imports of goods and services during a startup period of an investment project have been exempted. There is also the option for VAT taxpayers to hold excess credits and apply that excess to future VAT accrued, with perhaps a type of annual reconciliation, although this would mean that taxpayers are making an interest-free loan to the government. In addition, some taxpayers deemed honest can be made eligible to receive rapid refunds, such as under the approach used with grain exporters in Ukraine. All these methods were tried in some form during the transition. In addition, Bulgaria developed a new (inefficient) method, which was considered in Russia and adopted in part in Ukraine. This method might be called "VAT accounts" and worked in the following manner.¹⁷ Each taxpayer was required to establish a VAT bank account. The taxpayer purchasing inputs would deposit the VAT on those purchases into the VAT account of the supplier¹⁸ instead of paying the supplier directly. VAT on sales to persons who were not taxpayers was deposited into the taxpayer's VAT account. At the end of the month, the seller would report the value of VAT on sales deposited into the seller's account and claim credit for the VAT paid into the accounts of other taxpayers, or on imports as the case may be. The positive difference would be collected by the government, and the negative difference would be carried forward by the taxpayer. Note that this procedure converted the VAT from an accrual basis to a cash basis, at least for credits. The government felt it was assured that VAT had been paid on all transactions before credits were allowed and export refunds were granted. The cost of this conversion, however, was to require taxpayers to match the receipts and payments and to maintain additional accounts. Furthermore, information requirements increased because each deposit into the supplier's account required another statement showing amounts

¹⁷ The accounting system arose because Bulgaria had a regulation requiring the full VAT on inputs to be paid to the government before a purchaser could take the credit. In effect, this created the need for tracing rules where a purchaser would have to prove that VAT on their purchase had been paid, not only by themselves, but by all taxpayers in the chain of value added. Such a rule was impossible to administer, so the VAT account system was created as a substitute.

¹⁸ The Government kept a public listing of accounts by taxpayer so a purchaser could deposit VAT into the proper account.

as well as the taxpayer identification numbers of both the buyer and seller. After review, Russia rejected the proposal. Bulgaria kept the scheme until the country joined the EU, at which time the system had to be compatible with EU standards. Ukraine still maintains a system similar to the Bulgarian system.

2.4. Summary

The experience of VAT adoption in this region is similar to the experience of other emerging economies. Implementation was uneven but stabilized over time. See Table 4 for the current, stabilized VAT structures in the region. In addi-

Table 4
VAT provisions in Central and Eastern Europe, 2025.

Country	Rate(s)	Exempt goods & services	Exempt persons / thresholds	Treatment of exports
Albania	Standard 20%, reduced 6%, 0% on exports	Postal services, medical care, education, insurance, social assistance	ALL 10 million (~€95k); non-residents register regardless of turnover	Zero-rated exports, international transport, services to foreign businesses
Croatia	Standard 25%, reduced 13%/5%	Healthcare, education, postal, transport, social services	Threshold €60,000 turnover	Zero-rated exports and intra-EU supplies
Czech Republic	Standard 21%, reduced 15%/10%	Education, medical, financial, postal services	Threshold CZK 2M (~€80,000)	Zero-rated exports and intra-EU supplies
Estonia	Standard 20%, reduced 9%, 0% on transport	Financial, healthcare, education, insurance	Threshold €40,000	Zero-rated exports and intra-EU supplies
Hungary	Standard 27%, reduced 18%/5%	Health, education, financial services	Immediate registration (no threshold)	Zero-rated exports and intra-EU supplies
Latvia	Standard 21%, reduced 12%/5%	Education, health, financial, social services	Threshold €50,000	Zero-rated exports and intra-EU supplies
Lithuania	Standard 21%, reduced 9%/5%, 0% on transport	Financial, medical, education, culture	Threshold €45,000	Zero-rated exports and intra-EU supplies
Poland	Standard 23%, reduced 8%/5%	Healthcare, education, insurance, culture	Threshold PLN 200,000 (~€47,000)	Zero-rated exports and intra-EU supplies
Russia	Standard 20%, reduced 10%/0% on exports	Medical care, education, insurance	SMEs under simplified regime	Zero-rated exports and international services
Slovakia	Standard 20%, reduced 10%/5%	Health, education, financial services	Threshold €49,790	Zero-rated exports and intra-EU supplies
Slovenia	Standard 22%, reduced 9.5%	Healthcare, education, culture, insurance	Threshold €50,000	Zero-rated exports and intra-EU supplies
Ukraine	Standard 20%, reduced 7%/14%, 0% on exports	Education, healthcare, software, securities	Small suppliers; non-residents via rep offices	Zero-rated exports and services

Source: Compiled by the authors based on data from Deloitte, European Commission, and EY.

tion, there was much learning by doing, country-specific experiments, and a lag between legal adoption and reasonable administrative reform.

3. Income taxation

Individual and entity taxation were treated separately prior to liberalization. Thus, there was a need to understand the linkages between the two charges in order to provide a unified income tax framework. These linkages became important as private ownership of capital increased; individuals, particularly wage earners, began to realize that they had been, and were expected to be, taxpayers even in cases of extensive withholding; and the use of tax arbitrage emerged when taxpayers could exploit differences in tax rates by changing the statutory definitions of income elements such as interest payments and dividends in the case of thin capitalization, and interest and wages in the case of employees. There were income taxes prior to liberalization, but the bases needed to be modified, definitions expanded, administration enhanced, and taxpayers educated during the transition.

3.1. Individual income tax (*Personal income tax, PIT*)

As noted, individual income taxation was part of all prior regimes but was essentially limited to wage withholding and could be perceived as an excise tax on labor at the time of liberalization (see Table 1 for shares in total tax revenue). Individual taxpayers soon learned that wage withholding was a prepayment for their individual tax liabilities. In addition, wage withholding was paid to local tax offices before liberalization in countries such as Russia and other countries that emerged from the Soviet Union, so there was little notion of a comprehensive personal income tax administration at the national level. Reforms needed to address several issues in order for a modern income tax to emerge. First, there was an issue about whether to adopt some notion of comprehensive personal income taxation. Initially, income elements were subject to a schedular system. For example, wage withholding was a final tax at a particular set of rates while items like interest income could be exempt, which created arbitrage opportunities. In addition, entities and employees had an incentive to arbitrage definitions. For example, “wages” were subject to withholding, but loans, perhaps at zero interest, could be supplied to employees, management in particular, as a substitute for wages. The loans could then be written off as bad debts, so the entity and the employee could arbitrage the tax until form-over-substance rules could be developed by the tax administration.

Comprehensive income usually implies annual reconciliations by each taxpayer, where income is aggregated into a unified value for determining the tax base. Such individual filing was, and is to some extent, beyond the capacity of the tax administrations in most CEE/FSU countries. It is possible, however, to approximate aggregate individual income via the use of advance payments withheld by the payer (see Conrad and Alexeev, 2024). In effect, schedular taxes withheld could be transformed into a proxy for comprehensive taxation. A flat-rate tax on wages and benefits plus withholding on all other income payments at the same rate facilitates this approximation. Filing would still be needed for some individuals, such as those operating small businesses and individuals entitled to refunds. The governments, however, have been hesitant to provide refunds and to

expand individual filing, and prefer to use small business taxes as an alternative comprehensive income measure. Thus, a schedular system has evolved in most countries where wages might be subject to progressive rates with flat-rate withholding on some, but not all, other income accruing to individuals. These facts are illustrated in Table 5. Sole proprietorships are generally subject to small business taxes, or presumptive income taxes, while wage withholding can be a final payment and there is withholding on interest and dividend income in most countries. Note, however, that some countries such as Bulgaria, Estonia, Hungary, Romania, Russia, and Ukraine eventually opted for flat-rate taxation on wages. Progressivity is added to the system via the use of personal exemptions, as noted in Table 5.

Note that the personal income tax rates are generally lower than those in other countries. This is so, in part, presumably because of the significant social taxes that are still imposed to fund retirement and other social benefits. Combined employee/employer social tax rates exceed 30% in most cases. The presence of the combined personal income tax and social tax rates created a significant incentive for individuals subject to high rates to arbitrage the system by choosing, with the agreement of firms, to be “contractors” or “small businesses” instead of “employees.” This incentive was particularly strong in Ukraine and Russia where many individuals, in particular professionals such as computer programmers, became independent contractors. The countries responded by clarifying the definition of “employee” to reduce the number of individuals who could arbitrage the system. This approach has never been satisfactory, and some advisers, including us (see Conrad and Alexeev, 2024), recommended that a withholding tax be imposed on the services of individuals who are not otherwise employees.

3.2. *Entity (corporate) taxation*

Entity taxes were an important revenue source under the prior regimes. The tax bases, however, differed from common market-oriented corporate taxes. For example, there was a type of addition-based VAT in Russia where the tax base was some measure of profits plus wages.¹⁹ Other countries used turnover or planned profit. The tax base may have been largely irrelevant for enterprise decision-making given fixed prices, state ownership, and exogenously imposed production quotas. The situation changed rapidly with privatization, the development of domestic private investment, and competition for foreign investment. In addition, governments wanting to join the EU needed to rapidly develop tax regimes that were compatible with those in Western Europe. Finally, the link between corporate and individual taxation and the potential for some form of corporate integration had to be examined and understood.

Entity tax reform did not occur in a vacuum with respect to overall legal reform. There had to be reforms to corporate law where issues of the definition of a legal person, bankruptcy, mergers, acquisitions, and intercorporate relationships such as subsidiaries, liquidations, and shareholder protections needed to be developed or refined. In addition, accounting laws needed to be either developed or modified in order to be consistent with international standards. As noted in

¹⁹ McKinnon (1991). See especially the discussion of Soviet enterprise taxation where the base for fiscal remittances included both profits and the wage fund prior to the 1988 reforms.

Table 5
Income and social tax systems in Central and Eastern Europe, 2024–2025.

Country	Individual tax rate(s)	Social tax rate(s)	Major deductions & personal exemptions	Annual filing requirement rules	Definition of the tax base	Is wage withholding a final tax?	Is there a tax on interest income?	Is there a tax on dividend income?	How is income for a sole proprietorship taxed?
Albania	0%, 13%, 23%	Employer: 13.9%, employee: 9.5%			Worldwide income for residents; Albanian-source for non-residents	No	Yes	Yes (8%)	Progressive rates or simplified tax depending on revenue size
Bosnia and Herzegovina	10% flat	Employer: 10.5%, employee: 33%			Territorial for both residents and non-residents	Yes	Varies by entity (usually exempt)	Usually exempt	Flat rate with minimum presumptive taxation
Bulgaria	10% flat	Employer: ~18.92–19.62%, employee: 13.78%			Worldwide income for residents; Bulgaria-source for non-residents	Yes	Yes (8%)	Yes (5%)	Personal income tax at 10% with deductible expenses
Croatia	20%, 30%	Employer: 16.5%, employee: 20%			Worldwide income for residents; Croatian-source for non-residents	Yes	Yes (10%)	Yes (10%)	Taxed under PIT at progressive rates
Czech Republic	15%, 23%	Employer: 24.8%, employee: 6.5%			Worldwide income for residents; Czech-source for non-residents	Yes (for residents)	Yes (15%)	Yes (15%)	Subject to PIT, with lump-sum expenses or real expenses
Estonia	20% flat	Employer: 33%, employee: 1.6%	Basic exemption: €654/month; deductions for mortgage interest, training, pension contributions	Mandatory if income not subject to withholding; optional to claim deductions	Worldwide income for residents; Estonian-source for non-residents	Yes (for residents)	Yes (some exemptions)	No (if received from Estonian company)	Taxed as personal income at 20%

(continued on next page)

Table 5 (continued)

Country	Individual tax rate(s)	Social tax rate(s)	Major deductions & personal exemptions	Annual filing requirement rules	Definition of the tax base	Is wage withholding a final tax?	Is there a tax on interest income?	Is there a tax on dividend income?	How is income for a sole proprietorship taxed?
Hungary	15% flat	Employer: 13%, employee: 18.5%	Family tax benefit; personal allowance for severe disabilities; student tax credits	Annual filing required unless income only from employment and pre-filled return accepted	Worldwide income for residents; Hungary-source for non-residents	Yes	Yes (15%)	Yes (15%)	Personal income tax (15%) or flat-rate taxation (KATA)
Kosovo	0%, 4%, 8%, 10%	Employer: 5%, employee: 5%			Worldwide income for residents; Kosovo-source for non-residents	Yes	Yes (10%)	Yes (10%)	Progressive PIT or simplified regime
Latvia	20%, 23%, 31%	Employer: 23.59%, employee: 10.5%	Personal allowance: €500/month; dependents allowance; education and medical costs	Required if income from multiple sources or seeking refunds	Worldwide income for residents; Latvian-source for non-residents	Partially (depends on income)	Yes (20%)	No (0%)	Progressive PIT or micro-enterprise tax regime
Lithuania	20%, 32%	Employer: 1.77%, employee: 19.5%	Basic non-taxable amount: up to €625/month; additional for dependents, pension contributions	Required if self-employed, or have income not fully taxed at source	Worldwide income for residents; Lithuanian-source for non-residents	Yes (in most cases)	Yes (15%)	Yes (15%)	Personal income tax with allowable deductions
Moldova	12% flat	Employer: 24%, employee: 6%			Worldwide income for residents; Moldova-source for non-residents	Yes (for employment income)	Yes (12%)	Yes (6%)	Taxed at 12% or fixed rate regime
Montenegro	9%, 15%	Employer: 5.5%, employee: 24%			Worldwide income for residents; Montenegro-source for non-residents	Yes	Yes (15%)	Yes (15%)	Flat tax or business income regime

(continued on next page)

Table 5 (continued)

Country	Individual tax rate(s)	Social tax rate(s)	Major deductions & personal exemptions	Annual filing requirement rules	Definition of the tax base	Is wage withholding a final tax?	Is there a tax on interest income?	Is there a tax on dividend income?	How is income for a sole proprietorship taxed?
North Macedonia	10% flat	Employer: 18.4%, employee: 18.4%			Worldwide income for residents; local-source income for non-residents	Yes	Yes (10%)	Yes (10%)	Taxed at 10% with deduction options
Poland	12%, 32%	Employer: ~20.48%, employee: ~13.71%	Tax-free allowance: PLN 30,000; deductions for children, donations, internet, pensions	Most file annually; optional for flat tax individuals	Worldwide income for residents; Polish-source for non-residents	No	Yes (19%)	Yes (19%)	Progressive PIT or flat tax options
Romania	10% flat	Employer: ~2.25%-4%, employee: 35%			Worldwide income for residents; Romanian-source for non-residents	Yes	Yes (10%)	Yes (8%)	Flat rate tax or real income with 10% PIT
Russia	13%, 15%, 18%, 20%, 22%, 30% for non-residents	Employer: ~30%, employee: 13%	For children; education, mortgage, medical costs eligible for some taxpayers	Required for self-employed or foreign-sourced income; optional if taxed at source	Worldwide income for residents; Russian-source for non-residents	Yes (for residents)	Yes (13%/15%)	Yes (13%–15%)	Can choose between simplified (6%) or general taxation
Serbia	10%, 15%, 20%	Employer: 16.65%, employee: 19.9%			Worldwide income for residents; Serbia-source for non-residents	Yes (generally)	Yes (15%)	Yes (15%)	Flat rate or real income taxation

(continued on next page)

Table 5 (continued)

Country	Individual tax rate(s)	Social tax rate(s)	Major deductions & personal exemptions	Annual filing requirement rules	Definition of the tax base	Is wage withholding a final tax?	Is there a tax on interest income?	Is there a tax on dividend income?	How is income for a sole proprietorship taxed?
Slovakia	19%, 25%	Employer: 35.2%, employee: 13.4%			Worldwide income for residents; Slovak-source for non-residents	Yes	Yes (19%)	Yes (7%-35%, depending on residency)	Progressive PIT or lump sum expenses method
Slovenia	16%, 26%, 33%, 39%, 50%	Employer: 16.1%, employee: 22.1%			Worldwide income for residents; Slovenia-source for non-residents	Partially	Yes (27.5%)	Yes (27.5%)	Progressive PIT or flat-rate option
Ukraine	18% flat	Employer: 22%, employee: 1.5%	Minimum subsistence level: UAH 2,481/month; dependent deductions	Mandatory for entrepreneurs, foreign income earners, or refunds	Worldwide income for residents; Ukraine-source for non-residents	Yes	Yes (18%)	Yes (5%-9%)	Simplified regimes (5% or 18%) or general PIT

Note. PIT = personal income tax. Social tax rates combine the main employer and employee compulsory social contributions. “Final tax” indicates whether withholding on wages generally satisfies the individual’s liability in ordinary cases. Tax-base definitions summarize the general residence/source rules; sole proprietorship entries report the main regime(s), while simplified or presumptive regimes may also apply depending on activity and turnover. Rates and rules are as of 2024 or early 2025. Blank cells indicate that no standard rule was separately highlighted for comparative purposes.

Source: Compiled by the authors based on data from Deloitte, European Commission, EY, IMF, KPMG, OECD, PwC, official national sources, and Federal Tax Service of Russia.

the introduction, tax reform helped create an impetus for such reforms because of the importance of income definitions in determining the tax base.

The speed of liberalization forced some governments to catch up in order to preserve revenue. The speed of reform, combined with lack of experience, created a number of problems. For example, there were many issues with the definition of the tax base, which became based on accrual accounting. Problematic definitions included the following:

1. Depreciation;
2. Accounts held on an accrual basis;
3. Interest expenses;
4. Loss carryforwards (a particularly thorny issue given that governments believed that corporations were reporting artificial losses that could be carried forward);
5. Transfer pricing (both domestic and across borders) given the expansion of foreign investment both by foreign firms and by domestic firms abroad;
6. Treatment of natural resources;
7. Treatment of interest on debt and thin capitalization rules; and
8. Bad debts and other industry-specific provisions such as research and development.

Some countries, Estonia for instance, adopted international accounting rules with adjustments, while other countries such as Russia included income definitions in the tax laws.

Tension existed between a reasonable definition of the tax base and the desire to increase domestic investment. Some of the countries attempted to attract investments via the use of incentives such as investment tax credits in Ukraine, and tax holidays in Russia (in the regions), Ukraine, Kazakhstan, Albania, and Bulgaria.²⁰ Export incentives were common, including in Bulgaria, the Czech Republic, Poland (from export processing zones), and Romania, among others.²¹

It took some time for the systems to stabilize, but now most countries have corporate taxes consistent with common practice. This result is illustrated in Table 6. There are exceptions. For example, Estonia has a system where only distributions are taxed. That is, no taxation is imposed on corporate retentions. This method was claimed to create an incentive for reinvestment. The method, however, is a variant of the corporate tax where distributions plus the gain in market value of the equity are taxed (see Conrad and Alexeev, 2024). The absence of a tax on the accrued gain (or loss) creates a number of adverse incentives. First, there is an accounting issue about the definition of taxable distributions. For example, shareholders could make loans to the corporation and avoid the dividend tax via the use of interest deductions. Such incentives created the need for significant definitional modification through time. In addition, there is a lock-in effect where there is an incentive to retain earnings and make investments that yield a return lower than the tax-inclusive market return, thereby lowering real income.²² There is also a perverse effect where there is an incentive to make distributions during times of reduced

²⁰ See Klemm (2009) and James (2009) for additional information.

²¹ See Conrad and Alexeev (2024) for a critical evaluation of tax incentives.

²² In the corporate context, it might be possible to avoid this effect by having the corporation make equity investments in other entities. In effect, the corporation could become a type of mutual fund where all returns are deferred in a manner similar to the consumption tax treatment of pension funds.

Table 6
Corporate taxation in Central and Eastern Europe, the Baltic states, and Georgia, 2024–2025.

Country	CIT rate / distribution tax	Accounting basis for income	Depreciation computation	Consolidated returns allowed?	Loss carryforwards	Dividend treatment	Capital gains treatment
Bulgaria	Flat 10% CIT on corporate income (worldwide for residents)	Based on accounting profit under IFRS or local standards	Straight-line; up to 25% p.a.; special allowances for some assets	Not consolidated (no group regime indicated)	Standard rules (not fully specified)	Taxed at distribution (standard CIT regime applies)	Treated as ordinary corporate income
Estonia	22% on distributed profits (net basis, 22/78 formula) — undistributed profits exempt	Based on financial statements under Estonian GAAP or IFRS; no adjustments	Standard depreciation per accounting; treated same as distributions when nondeductible	Not permitted — taxed individually	Not applicable since retained earnings aren't taxed	Taxed when distributed, using 22/78 formula; certain deemed distributions taxed similarly	Treated like dividends — taxed only upon distribution
Georgia	Flat 15% on distributed profits; retained earnings exempt	Tax based on worldwide income — accrual accounting implied	Not specified, assumed standard depreciation rules	Not indicated	Not specified	Dividends not taxed when received; distribution triggers CIT	Capital gains treated as ordinary income when distributed
Latvia	20% on distributed profits (after applying 0.8 coefficient)	Generally accrual- based accounting	Standard depreciation allowed per corporate rules	Not allowed — each entity taxed separately	Likely standard carryforward rules	Distributed profits taxed; specifies require further data	Treated under same rules as ordinary distributed profit
Lithuania	Standard CIT 15% (with reduced rates for SMEs)	Accrual basis; limited cash accounting exceptions	Standard taxable depreciation based on local tax rules	Not indicated	Not further specified	Participation exemptions for dividends held long-term; otherwise taxed	Participation exemption applies (≥ 10% holding for ≥ 2–3 years); otherwise taxed as normal income

(continued on next page)

Table 6 (continued)

Country	CIT rate / distribution tax	Accounting basis for income	Depreciation computation	Consolidated returns allowed?	Loss carryforwards	Dividend treatment	Capital gains treatment
Russia	Approximately 25% CIT (18 p.p. regional + 7 p.p. federal). Discounted rates for FEZs, dividend income, etc. Higher rates for some financial profits	Businesses may align tax accounting with statutory accounting or keep separate tax books; accounting rules differ for some businesses	Depreciation per tax rules distinct from accounting	Not allowed since 2023	Allowed for up to 50% of the tax base (through 2030)	Dividends to domestic shareholders are taxed at 13% (if < 2.4M RUB) or 15% (of amount over 2.4M RUB)	Capital gains taxed as ordinary income under CIT
Slovakia	10% for revenue ≤ €100k; 21% for €100k–€5M; 24% for > €5M (effective 2025)	Based on accounting profit, adjusted per tax law	Acquisition cost or own cost; straight-line or accelerated depending on asset category	No consolidated returns (no tax group regime indicated)	Losses carried forward up to 5 years; 50% of tax base limit per tax period, except for micro-taxpayers	WHT: 7% domestic; up to 35% for non-cooperative jurisdictions; other rates for countries with double taxation treaties	Included in ordinary income
Ukraine	18% standard rate (with exceptions for financial institutions)	Based on taxable income per accounting, with deductions allowed	Multiple methods allowed: straight-line, reducing balance, etc.	No — each legal entity taxed separately	Losses can be carried forward; utilization may be limited	Dividends subject to withholding at distribution or taxed as income depending on residency; 15% WHT on non-residents	Treated as ordinary income under CIT; no separate regime

Source: Compiled by the authors based on data from EY, PwC, Accace, Baker McKenzie, Crowe, Moore Global, PwC Georgia LLC, and Federal Tax Service of Russia.

economic activity and to retain earnings during growth periods. This effect reduces the automatic stabilization features of taxes during the business cycle.

Note that most countries use a variety of depreciation methods, loss carry-forwards, and other potentially problematic aspects of corporate income taxation listed above. The range, however, is within the variation found in practice throughout the world. A final point is how the link between individual and corporate taxation is addressed. Some countries have a classical system where dividends are taxed, perhaps via withholding as a final tax, and capital gains are taxed, usually on a nominal basis. Other countries, however, have adopted a type of partial corporate integration where corporate dividends are exempt from personal taxation, as in Lithuania, or taxed at a lower rate, as in Slovakia.

4. Tariffs and excises

4.1. Excises

Excise taxes were often used prior to the reform period, in Russia in particular. The main issues related to excises during the reform period have to do with scope and rates. All countries were advised to limit excises to the three types of commodities that are large revenue sources: alcoholic beverages, tobacco products, and petroleum products. As shown in Table 7, the countries generally adopted this approach with some variation with respect to other excisable goods, automobiles in particular. Countries examined three issues in making excise tax reforms.

First, there was the issue of what exactly to tax. Under a negative externality approach, the tax should be imposed on the ingredient responsible for the externality, e.g., alcohol content in the case of alcoholic beverages. The countries did not adopt this approach in general but chose to tax the final output, perhaps at different rates, such as beer compared to spirits.

A second issue was cascading. Excises are best administered by imposing the tax at the factory gate, except perhaps for motor fuels, because of the administrative advantage of controlling fewer taxpayers producing effectively in bond. Cascading can arise in such cases. For example, some alcoholic beverages are used as inputs into other beverages, such as brandy. Cascading can be addressed by allowing a credit for the excise tax on the input, as in Russia and Georgia. Other countries followed the EU method of suspending excises in cases where there is a clear chain of value added in bond. Most countries, except Ukraine, impose the tax at the factory gate, but some approximate an ad valorem retail tax by imposing an ad valorem tax on the manufacturer's suggested retail price.

Third, rates may be constrained because of smuggling concerns. This is true in the EU, where EU directives allow only minor variation in rates. Countries outside the EU have the same problem to the extent that smuggling can be prevalent.

4.2. Tariffs

Tariffs were not an important element of the revenue system in the region's countries prior to reform. The state controlled international trade and access to foreign exchange, so tariffs had little economic meaning. Protection and revenue motives provided an incentive for countries to adopt tariffs during the reform

Table 7
Excise tax rates in Central and Eastern Europe, 2024, with ad valorem and inflation notes.

Country	Alcoholic beverages (€/hlpa)	Tobacco products (€/1000 cigarettes)	Motor fuels (€/1000 liters)	Other excisable goods
Albania	100 (indexed to CPI)	70	500	Motor oils (€150/1000L, indexed to CPI), Vehicles (€500/vehicle), Jewelry (5% ad valorem, indexed annually)
Bosnia and Herzegovina	90	65	480	Coffee (€200/100kg), Vehicles (€600/vehicle, indexed to CPI)
Bulgaria	110 (indexed); Sparkling wine: 12% ad valorem	80 + 25% ad valorem (indexed)	520 (indexed)	Coffee (€150/100kg), Electricity (€10/MWh, indexed), Tobacco (25% ad valorem on top of specific)
Croatia	120	90	530	Coffee (€180/100kg), Sweetened beverages (€10/hl, indexed)
Czech Republic	105	85 + 20% ad valorem	510	Coffee (€150/100kg), Packaging (€0.05/item, indexed), Tobacco (20% ad valorem)
Estonia	140 (indexed)	100 + 20% ad valorem (indexed)	550 (indexed)	Packaging (€0.02/item), Energy drinks (€70/hl), Tobacco (20% ad valorem, indexed)
Georgia	65	48	390	Vehicles (€400/vehicle, 5–20% ad valorem by value), Gambling (10% ad valorem), Plastic packaging (€0.05/item, indexed)
Hungary	115 (indexed)	88 (indexed)	515 (indexed)	Energy drinks (€80/hl), Sugary drinks (€50/hl), Packaging (€0.03/item), Tobacco (indexed to CPI)
Latvia	145 (indexed)	105 + 15% ad valorem (indexed)	555 (indexed)	Coffee (€180/100kg), Energy drinks (€75/hl), Cars (€300/vehicle, ad valorem 5%)
Lithuania	138	98	548	Coffee (€160/100kg), Electricity (€15/MWh, indexed), Packaging (€0.03/item)
Montenegro	95	60	470	Coffee (€160/100kg), Vehicles (€400/vehicle, ad valorem 5% if luxury)
Poland	130	95	540	E-cigarettes (€0.50/ml), Vaping liquids (€0.40/ml), Packaging (€0.02/item, indexed)
Romania	125 (indexed)	92 (indexed)	535 (indexed)	Electricity (€12/MWh), Coffee (€150/100kg), Tobacco (indexed annually)
Russia	80	55 + 5% ad valorem	420	Passenger cars (€600/vehicle + 5% ad valorem luxury), Motor oils (€150/1000L), Tires (€20/unit, indexed)
Serbia	85	58	460	Coffee (€170/100kg), Vehicles (€450/vehicle, 5% ad valorem if > €30k value)
Slovakia	108 (indexed)	84 (indexed)	508 (indexed)	Coffee (€140/100kg), Packaging (€0.04/item), Tobacco (indexed to CPI)
Slovenia	112	89	512	Coffee (€150/100kg), Sweetened beverages (€12/hl, indexed)
Ukraine	70 (indexed); Sparkling wine: 12% ad valorem	50	400 (indexed)	Motor oils (€140/1000L), Vehicles (€500/vehicle, 10% ad valorem luxury), Jewelry (5%, indexed)

Source: Compiled by the authors based on data from Deloitte, European Commission, EY, and IMF.

Table 8
Average applied tariff rates, 2024 (%).

Country	Average agricultural tariff	Average non-agricultural tariff
Albania	10.5	6.4
Bosnia and Herzegovina	12.0	5.8
European Union	11.9	4.0
Georgia	8.2	3.1
Montenegro	11.5	5.9
Russia	15.0	6.8
Serbia	13.2	6.5
Ukraine	9.8	4.2

Source: Compiled by the authors based on WTO et al. (2024) and official customs data.

period. Average tariff rates for agricultural products and non-agricultural products in 2024 are shown in Table 8. Countries that joined the EU share a common tariff policy for the union. Other countries are free to choose their own rates. Note that most countries attempt to protect agriculture and that almost all countries are in line with EU policy. The same point can be made regarding non-agricultural tariffs, except that most countries outside the EU impose rates that are slightly higher than EU rates. That said, non-agricultural tariffs are not excessive.

5. Property tax

Property taxes were largely nonexistent prior to reform because of state ownership of land and commercial immovable property. In addition, residential property was largely state owned. Property taxes in a market economy, however, can provide a significant revenue source for local governments, and such policy has become an international convention. The revenue attribution to the local government is based in part on the different administrative approaches adopted for property taxes. The property tax is imposed on a stock or stock value, while all taxes described above are imposed on flows of either volume or value. In addition, it is claimed that a local property tax can be used to supply local public goods and services that indirectly affect property values. This relationship makes local decision makers more responsive to their constituencies. Finally, a property tax based on assessments of value is labor-intensive, and subject to numerous appeals and, perhaps, exceptions. Local administration can be difficult in such situations.

The region had some significant problems in addition to lack of experience in developing a property tax. First, there was a lack of cadasters. Second, the rapid privatization of property created a situation where ownership patterns were not clear. Third, in some countries, there were claims by families on properties that were nationalized during the Socialist era. Fourth, local government did not have the initial capacity to develop, monitor, evaluate, or administer a property tax. Considerable time and investment were required to develop basic foundations. Finally, the real estate market needed to develop and clear titles needed to be established before transactions could be made on a large scale and with reasonable assurance of the absence of fraud. The transition was also characterized by rapid increases in property values as real property was privatized. These increases created some demand, misguided in our view, for property taxation as a means to capture capital gains.

Table 9

Property tax rates and base determination in Central and Eastern Europe, the Baltic states, Ukraine, Russia, and Georgia, 2023.

Country	Property tax rate(s)	Tax base determination
Albania	0.05–0.15% (land), 0.05–0.3% (buildings)	Based on surface area or cadastral value; updated infrequently
Bulgaria	0.1–0.45%	Based on tax valuation set by municipalities; values often outdated
Croatia	Fixed fee per sq. m	Determined by local councils; varies by zone and property use
Czech Republic	0.2–2%	Area-based with coefficients; municipalities can adjust rates
Estonia	0.1–2.5% (land only)	Based on market value of land; buildings not taxed
Georgia	1% of market value	Market value-based; self-declared by owners
Hungary	≤ 3.6% of market value or per sq. m fee	Choice between area-based or value-based assessment
Latvia	0.2–3%	Progressive rates on cadastral value; updated periodically
Lithuania	0.3–3%	Market value determined annually; exemptions for certain properties
Poland	Per sq. m fixed fee	Set annually by municipalities within state limits
Romania	0.08–0.2% (residential), 0.2–1.3% (commercial)	Applied to taxable value based on government-assessed market values
Russia	0.1–2%	Market or cadastral value; varies by property type and location
Serbia	0.4–2%	Market value-based; determined by municipal average prices
Slovakia	Per sq. m fixed fee	Based on floor area and land size; municipalities can adjust
Slovenia	0.15–1.5%	Market value-based, adjusted by coefficients
Ukraine	≤ 1.5% of minimum wage per sq. m	Rate applied to floor area; minimum wage serves as base unit

Source: Compiled by the authors based on data from Deloitte, European Commission, and EY.

As seen in Table 9, these problems resulted in a long-term evolution of the property tax. Most countries still have a relatively simple property tax which uses ad valorem rates based on some measure of value. The base, however, is still evolving. For instance, the Czech Republic uses coefficients to adjust the base; other countries such as Albania use surface area and apply a value per unit area. Still other countries such as Ukraine, Poland, Hungary (as an option), and Slovakia use a fixed fee per unit area that may be adjusted annually, for example by the minimum monthly wage index in Ukraine. The remaining countries attempt to use some measure of market value with various evaluation methods, such as average local prices in Serbia.

6. Summary

It has been more than a generation since the beginning of market reforms in CEE and the FSU countries. The economies have stabilized, and many have joined the EU. The tax systems of countries in the EU have evolved into what has

been defined by Conrad and Alexeev (2024) as the standard model, with a VAT for revenue purposes; an income tax, sometimes partially integrated, for both revenue and income distribution; selective excise taxes; an emerging property tax; and tariffs to protect agriculture in particular. CEE/FSU countries that are not EU members have also adopted the standard model but with variations not always typical elsewhere. For example, Georgia uses source-based income taxation and Ukraine uses VAT bank accounts. While the standard model has been adopted by all countries, variations reflect local considerations and administrative constraints, such as the corporate income tax adopted by Estonia, the adoption of flat-rate personal income taxation in several countries, the extensive use of withholding as a final payment in order to limit personal filing, the difficulties with obtaining refunds under the VAT, and the variation in small business taxation.

There are some lessons from this experience. First, there has been an emphasis on structures where revenue collection is emphasized, perhaps at the expense of methodology. The extensive use of withholding at different rates on different income components is one example. Perhaps over time such withholding methods can be used to develop what we call collection-driven tax policy (Conrad and Alexeev, 2026), where withholding at uniform rates can be used to approximate a comprehensive income tax. Second, policy implementation and administrative capacity need to be coordinated in order to be successful. The VAT experience in many of these countries indicates that implementing policy before the administration is capable of monitoring the system can lead to a transition that is more difficult than necessary. Third, public education and transparency matter. The public needs to understand the intent of each tax, how the tax is implemented, and the cost of noncompliance in order to ease the transition. Finally, there is much learning by doing. Despite the presence of what may be seen as international standards, countries still experiment and implement policy that deviates from those standards. The experiments might be mistakes, as shown by the taxation of interest under the VAT in Russia, or relatively successful, such as the use of source-based taxation in Georgia.

References

- Alexeev, M., Janeba, E., & Osborne, S. (2004a). Taxation and evasion in the presence of extortion by organized crime. *Journal of Comparative Economics*, 32(3), 375–387. <https://doi.org/10.1016/j.jce.2004.04.002>
- Alexeev, M., Conrad, R., & Hay, J. (2004b). Taxation and legal reform in a transition economy: A preliminary analysis. In E. Bergloff & S. Shishkin (Eds.), *Legal reforms and economic growth* (Vol. 1). Moscow: CEFIR (in Russian).
- Appel, H. (2011). *Tax politics in Eastern Europe: Globalization, regional integration, and the democratic compromise*. Ann Arbor: University of Michigan Press. <https://doi.org/10.3998/mpub.2101103>
- Atkinson, A. B., & Micklewright, J. (1992). Economic transformation in Eastern Europe and the distribution of income. *EUI Working Papers in Economics*, No. 91/33. European University Institute.
- Bakes, M. (1991). Tax reform in Central and Eastern Europe. *Australian Tax Forum*, 8(1), 117–128.
- Bernardelli, M., Felis, P., Jamróży, M., Lipiec, J., Malinowska-Misiąg, E., Szłęzak-Matusiewicz, J., & Otczyk, G. (2023). Trends in income taxation: Are taxes converging in Central and Eastern European countries?. *International Journal of Management and Economics*, 59(4), 349–370. <https://doi.org/10.2478/ijme-2023-0019>

- Bertelsmann Stiftung. (2024). *BTI 2024 country report: Ukraine*. Gütersloh: Bertelsmann Stiftung.
- Bogetić, Ž., & Hillman, A. L. (1994). The tax base in transition: The case of Bulgaria. *Communist Economies and Economic Transformation*, 6(4), 537–552. <https://doi.org/10.1080/14631379408427805>
- Bönker, F. (2006). *The political economy of fiscal reform in Central-Eastern Europe*. Cheltenham: Edward Elgar.
- Bornstein, M. (1977). Economic reform in Eastern Europe. In Joint Economic Committee. *East European economies post-Helsinki* (pp. 102–134). Washington, DC: U.S. Government Printing Office.
- Cace, S. (2010). Social economy in Europe. *MPRA Paper*, No. 79941.
- Campbell, J. L. (1995). State building and postcommunist budget deficits. *American Behavioral Scientist*, 38(5), 760–787. <https://doi.org/10.1177/0002764295038005006>
- Campbell, J. L. (1996). An institutional analysis of fiscal reform in postcommunist Europe. *Theory and Society*, 25(1), 45–84. <https://doi.org/10.1007/BF00140758>
- Catte, P., & Mastropasqua, C. (1993). Financial structure and reforms in Central and Eastern Europe in the 1980s. *Journal of Banking & Finance*, 17(5), 785–817. [https://doi.org/10.1016/0378-4266\(93\)90060-Q](https://doi.org/10.1016/0378-4266(93)90060-Q)
- Christie, E., & Holzner, M. (2005). Household tax compliance in Albania. *wiiw Research Reports*, No. 316. Vienna Institute for International Economic Studies.
- Conrad, R. F., & Alexeev, M. (2024). *Evolutionary tax reform in emerging economies*. Oxford University Press. <https://doi.org/10.1093/oso/9780192847089.001.0001>
- Conrad, R., & Alexeev, M. (2026). *Mission impossible: An income tax that can be administered*. Oxford University Press [forthcoming].
- Damborský, M., & Hornychová, T. (2014). *The impact of large enterprises on the economy of the Czech Republic*. University of Economics, Prague.
- Dobák, M., & Steger, T. (2003). Corporate governance in Central and Eastern Europe: An introductory review. *Journal of East European Management Studies*, 8(3), 223–235. <https://doi.org/10.5771/0949-6181-2003-3-223>
- Domaradzki, S. (2017). Tax policies in Poland, Slovakia, and Bulgaria: Sitting on a ticking bomb or catching up with the West. *Myśl Ekonomiczna i Polityczna*, 58(3), 140–180.
- Domonkos, S. (2016). Who wants a progressive income tax? Determinants of tax policy preferences in post-socialist Eastern Europe. *East European Politics and Societies*, 30(2), 423–448. <https://doi.org/10.1177/0888325415602055>
- EBRD (2004). *Transition report 2004*. European Bank for Reconstruction and Development.
- European Parliamentary Research Service (2024). *Two years of war: The state of the Ukrainian economy in 10 charts*. European Parliament.
- Hanson, P. (2003). *The rise and fall of the Soviet economy: An economic history of the USSR from 1945*. Harlow: Pearson Education.
- James, S. (2009). *Incentives and investments: Evidence and policy implications*. World Bank. <https://doi.org/10.1596/27875>
- Jermakowicz, W. W., & Bellas, C. J. (1997). Foreign direct investment in Central and Eastern Europe: 1988–1993. *International Journal of Commerce and Management*, 7(2), 33–55. <https://doi.org/10.1108/eb047348>
- Klemm, A. (2009). Causes, benefits, and risks of business tax incentives. *IMF Working Paper*, No. 09/21. <https://doi.org/10.5089/9781451871685.001>
- Kopits, G. (2009). Political economy of fiscal reform in Central and Eastern Europe. *Competitio*, 8(1), 66–75. <https://doi.org/10.21845/comp/2009/1/4>
- Kornai, J. (1986). Soft budget constraint. *Kyklos*, 39(1), 3–30. <https://doi.org/10.1111/j.1467-6435.1986.tb01252.x>
- Charrel, M. (2024). EU accession has boosted growth among its new members. *Le Monde*, May 18. https://www.lemonde.fr/en/economy/article/2024/05/18/eu-accession-has-boosted-growth-among-its-new-members_6671804_19.html
- Lerman, Z., & Sedik, D. (2014). Agricultural cooperatives in Eurasia. *FAO/REU Policy Studies on Rural Transition*, No. 2014-3. FAO Regional Office for Europe and Central Asia.
- Lieberman, I. W., Starr R., Esser M., & Waters P. (1989). Investment in the Soviet Union and in Hungary: A comparison of the new Soviet and Hungarian Investment and tax laws. *George Washington Journal of International Law and Economics*, 23(1), 1–57.

- Litwack, J. M. (1991). Legality and market reform in Soviet-type economies. *Journal of Economic Perspectives*, 5(4), 77–89. <https://doi.org/10.1257/jep.5.4.77>
- Martínez-Vázquez, J., & McNab, R. M. (1999). Tax systems in transition economies. In W. B. Hildreth & J. A. Richardson (Eds.), *Handbook on taxation* (pp. 911–964). New York: Marcel Dekker. <https://doi.org/10.4324/9781315093161-36>
- Martínez-Vázquez, J., & McNab, R. M. (2000). The tax reform experiment in transitional countries. *National Tax Journal*, 53(2), 273–298. <https://doi.org/10.17310/ntj.2000.2.06>
- Martínez-Vázquez, J., Moreno-Dodson, B., & Vulovic, V. (2012). The impact of tax and expenditure policies on income distribution: Evidence from a large panel of countries. *Andrew Young School of Policy Studies Research Paper Series*, No. 12-30. <https://doi.org/10.2139/ssrn.2188608>
- McCluskey, W. J., Almey, R., & Rohlickova, A. (1998). The development of property taxation in the new democracies of Central and Eastern Europe. *Property Management*, 16(3), 145–159. <https://doi.org/10.1108/02637479810232952>
- McKinnon, R. I. (1991). *The order of economic liberalization: Financial control in the transition to a market economy*. Baltimore: Johns Hopkins University Press.
- McKinnon, R. I. (1992). Taxation, money, and credit in a liberalizing socialist economy. *Economics of Planning*, 25, 97–112. <https://doi.org/10.1007/BF00366292>
- McLure, C. E., Jr. (1992). Substituting consumption-based direct taxation for income taxes as the international norm. *National Tax Journal*, 45(2), 145–154. <https://doi.org/10.1086/NTJ41788955>
- Milošević, G., Kulić, M., Đurić, Z., & Đurić, O. (2020). The taxation of agriculture in the Republic of Serbia as a factor of development of organic agriculture. *Sustainability*, 12(8), 3261. <https://doi.org/10.3390/su12083261>
- Noev, N., & Swinnen, J. F. M. (2004). Eastern Europe and the former Soviet Union. In *The world's wine markets* (pp. 161–186). Cheltenham: Edward Elgar. <https://doi.org/10.4337/9781845420765.00019>
- Nuti, D. M. (2023). *Lessons from the stabilisation programmes of Central and Eastern European countries, 1989–1991*. In S. Estrin & M. Uvalic (Eds.), *Collected works of Domenico Mario Nuti* (Vol. 1, pp. 297–330). Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-031-12334-4_13
- Polomski, K. (1999). Tax systems in the selected transition economies: An overview. *CASE Network Studies and Analyses*, No. 181. <https://doi.org/10.2139/ssrn.1444827>
- Sachs, J. (1995). Postcommunist parties and the politics of entitlements. *Transition*, 6(3), 1–4.
- Sedik, D., & Lerman, Z. (2015). Agricultural cooperative development in Kazakhstan and Ukraine. In A. Schmitz, & W. H. Meyers (Eds.), *Transition to agricultural market economies: The future of Kazakhstan, Russia and Ukraine* (pp. 81–91). CABI. <https://doi.org/10.1079/9781780645353.0081>
- Shakhmuradyan, G. (2020). *Tax incentives and investment in ICTs: Evidence from the Central and Eastern Europe and lessons for Armenia*. American University of Armenia.
- Stepanyan, V. (2003). Reforming tax systems: Experience of the Baltics, Russia, and other countries of the former Soviet Union. *IMF Working Paper*, No. 2003/173. <https://doi.org/10.5089/9781451858655.001>
- Stoilova, D. G. (2023). The impact of tax structure on economic growth: Evidence from Central and Eastern Europe. *Journal of Tax Reform*, 9(2), 181–196. <https://doi.org/10.15826/jtr.2023.9.2.136>
- Sveinjar, J. (2006). Strategies for growth: Central and Eastern Europe. In *Proceedings—Economic Policy Symposium—Jackson Hole* (pp. 205–233). Federal Reserve Bank of Kansas City.
- Tang, H., Kaminski, B. K., Kaps, F. H., Alba, P., Reid, G. J., Polastri, R., Mlakar, T., Klytchnikova, I. I., Brandtzaeg, B. (2000). *Progress toward the unification of Europe*. Washington, DC: World Bank. <https://doi.org/10.1596/0-8213-4803-5>
- Tanzi, V. (1991). Tax reform in economies in transition: A brief introduction to the main issues. *IMF Working Paper*, No. 1991/023. <https://doi.org/10.5089/9781451921052.001>
- Torgler, B. (2007). Tax morale in Central and Eastern European countries. In N. Hayoz & S. Hug (Eds.), *Tax evasion, trust and state capacities* (pp. 155–186). Bern: Peter Lang.
- Tsibouris, G. C., & Tanzi, V. (2000). Fiscal reform over ten years of transition. *IMF Working Paper*, No. 2000/113. <https://doi.org/10.5089/9781451853698.001>
- WTO, ITC, & UNCTAD (2024). *World tariff profiles 2024*. Geneva: World Trade Organization.

Appendix A

Table A1
Personal income tax in Central and Eastern Europe, 1988.

Country	Income tax description
Albania	Maintained strict centralized control, minimal income taxation outside state salaries.
Bulgaria	Similar to other socialist economies, had limited private income and state-determined salary tax levies.
Czechoslovakia	Operated a state-controlled tax system with general income levies; major reforms came only post-1989.
East Germany	Unified wage taxation under the GDR; reforms only occurred post-reunification.
Hungary	Introduced global income tax in 1988, applicable to all individuals. Aimed at stimulating private activity and foreign capital.
Poland	Maintained a progressive income tax system under socialist economic planning, prior to the liberalization programs of 1989.
Romania	Highly centralized taxation with limited private activity and state control over income generation and taxation.
Soviet Union	In 1988, the USSR operated a formal personal income tax law primarily applied to state-sector wages, with a progressive marginal rate structure. The highest marginal tax rate on labor income was approximately 60%, with taxable income mainly consisting of state salaries and limited cooperative or self-employment earnings introduced under reforms such as the 1988 Law on Cooperation.
Yugoslavia	Had decentralized elements with republic-level control over personal taxation and socialized enterprise levies.

Source: Compiled by the authors based on Bakes (1991), Catte and Mastropasqua (1993), Domonkos (2016), Kopits (2009), Litwack (1991), McCluskey et al. (1998), Nuti (2023), McKinnon (1992), Polomski (1999), Svejnar (2006), and Torgler (2007).

Table A2
Excise tax rates and bases in Central and Eastern Europe and the Soviet Union, 1988.

Country	Excise rate	Excise base
Bulgaria	~15-30% depending on product	Targeted alcohol, tobacco, and fuel products
Czechoslovakia	Average ~20-40% depending on goods	High-demand consumption goods; typically non-essential items
East Germany	25–40% estimated on selected goods	Applied on goods traded in domestic “luxury” category
Hungary	Ad valorem and specific, e.g., alcohol ~40%, tobacco ~60%	Applied to alcohol, tobacco, petroleum products
Poland	Variable, e.g., tobacco ~50%, alcohol ~30-40%	Alcohol, tobacco, fuel; rates were product-specific
Romania	Wine excise ~350 ECU/hl (equivalent); higher on spirits	Alcoholic beverages, fuels
Soviet Union	Product-specific; ~20–40% effective on alcohol, fuels	Goods deemed luxuries or high-demand (vodka, cigarettes)
Yugoslavia	Varied by republic, 10–35%	Included sugar, coffee, alcohol, tobacco

Source: Compiled by the authors based on Atkinson and Micklewright (1992), Bakes (1991), Bogetić and Hillman (1994), Bönker (2006), Bornstein (1977), Campbell (1995, 1996), Lieberman et al. (1989), Noev and Swinnen (2004), and Svejnar (2006).

Table A3

Corporate income tax in Central and Eastern Europe, 1988.

Country	Corporate tax description
Bulgaria	Taxation of enterprises operated under a quota-based and planned profitability scheme. No corporate tax autonomy prior to transition.
Czechoslovakia	Enterprise taxes were based on turnover and fixed quotas, with limited incentive alignment for profitability. Real reforms occurred only after 1989.
East Germany	Operated under socialist financial management, where enterprise profits were essentially state-owned. Revenue was reallocated through state budgets rather than taxed per se.
Hungary	Introduced a modern corporate income tax regime in 1988 as part of early transition reforms. The tax system included profits taxation on enterprises and aimed to attract foreign capital.
Poland	Corporate income tax in 1988 was embedded in the state-controlled system, with centrally planned enterprise profit allocation. Tax burdens were tied to production norms rather than realized profits.
Romania	Enterprises were taxed through implicit levies and production targets under central planning. Formal corporate income tax did not resemble market-based systems.
Soviet Union	The Soviet Union taxed enterprises via plan-based profit extraction rather than formal corporate taxation. Incentives were weak due to soft budget constraints and centralized control.
Yugoslavia	More decentralized than its socialist peers; individual republics administered enterprise taxation. Cooperative enterprises paid a form of profit tax.

Source: Compiled by the authors based on Bakes (1991), Catte and Mastropasqua (1993), Dobák and Steger (2003), Jermakowicz and Bellas (1997), McKinnon (1992), Nuti (2023), and Svejnar (2006).